

AUTHOR INDEX

A
 Aagard, P., 172
 Aanderaa, I., 157
 Abeles, M. F., 175, 176
 Abell, D. F., 330
 Abragam, A., 127
 Abrahamson, A. A., 253
 Abt, H. A., 539
 Ache, H. J., 351
 Adam, F. C., 308
 Adams, R. M., 346
 Adamson, A. W., 291, 292, 295, 296, 303, 317
 Adgie, R. L., 532
 Agar, A. W., 155
 Ahearn, A. J., 451, 455
 Ahn, S. E., 102, 103, 104
 Ahnlund, K., 460
 Airapetyants, A. V., 190, 201
 Ajdačić, V., 210
 Ajzenberg, F., 177
 Aksenen, S. I., 149
 Alberghini, J. E., 68
 Albert, R. D., 106, 108, 110
 Albouy, G., 466
 Alburger, D. E., 205
 Alder, K., 1, 2, 3, 4, 12, 66
 Aldrich, L. T., 461, 468, 469, 476
 Alexander, P., 580, 581, 583, 585, 586, 587, 589
 Alfimenkov, V. P., 149
 Alikhanov, P. P., 334
 Allan, D. L., 88, 99, 100, 102
 Allen, H. A., 440, 453
 Allen, J. S., 440
 Allen, J. W., 201
 Allen, W. D., 459
 Aller, L. H., 534, 535, 536, 539, 541
 Almén, O., 176, 180
 Almqvist, E., 205, 206
 Alpher, R. A., 507, 534
 Alsmiller, F. S., 210
 Altman, C., 295
 Alväger, T., 172, 464, 467
 Amaglobeli, N. S., 433
 Amano, H., 97, 114
 Amati, D., 359-343; 432, 433, 434
 Ambartsumian, V. A., 551, 553
 Ambler, E., 43, 45
 Ambrosen, J., 460
 Amelinckx, S., 260, 280
 Amenitskaya, R. V., 335
 Amis, E. S., 305
 Amsel, G., 193, 199, 204, 206
 Anbar, M., 330
 Anders, E., 479, 480, 481, 482, 494, 518, 563
 Anders, O. U., 158
 Anderson, A., 291
 Anderson, C. E., 104, 114, 207
 Anderson, J. D., 110
 Anderson, J. R., 329
 Anderson, R. S., 581, 582, 584
 Andersson, G., 172, 464, 465, 466
 Andersson, H. L., 432
 Andrews, P. T., 193, 207
 Anikina, M. P., 472
 Antal, J. J., 267
 Appa Rao, M. K. V., 541
 Arbman, E., 465, 466
 Arbusov, B. A., 434
 Ard, W. B., 580, 581, 583, 584, 588, 589, 592
 Ardon, M., 307
 Arechchi, F. T., 203
 Arfken, G. B., 58
 Argyres, P., 61
 Armstrong, A. H., 102, 103, 104
 Armstrong, A. M., 307
 Arnold, J. R., 456, 484, 485, 490
 Arnold, W. R., 175
 Arp, H. C., 535, 538, 546
 Arrol, W. J., 456
 Asaro, G., 167
 Ascoli, R., 432
 Ashby, V. A., 90
 Asher, D. R., 347
 Ashkin, A., 70
 Ashurst, K. G., 307
 Aston, F. W., 460
 Aten, A., 167
 Aten, A. C., 308, 319
 Aten, A. H. W., Jr., 351
 Atherton, N. M., 582, 584
 Atterling, H., 465
 Augoyard, C., 580, 581, 587
 Augoyard, M. C., 580, 581, 583
 Augustyniak, W., 200
 Avery, E. C., 595
 Axel, P., 134, 142, 149
 B
 Baade, W., 544, 551,

Babcock, R. V., 200
 Bachman, C. H., 201
 Backus, J., 158, 168
 Bahcall, J. N., 556, 557
 Bailey, A. J., 583
 Bailey, N. A., 194, 212
 Bainbridge, K. T., 441, 443, 447, 448
 Baird, S. L., Jr., 583
 Baker, B. R., 292, 299, 300
 Baker, C. P., 206
 Baker, P. S., 459
 Baker, W. D., 175, 176
 Baldinger, E., 191
 Ball, D. L., 291, 293, 294
 Ball, J. S., 434
 Ball, W. P., 100, 515
 Ballantine, R., 168
 Balligand, P., 240
 Bank, C. A., 346
 Barber, W. C., 1-42; 6, 10, 11, 13, 14, 16, 18, 19, 22, 23, 25, 26, 30, 31, 33, 37, 38, 40, 157
 Bargmann, V., 68, 69
 Barker, F. B., 306
 Barker, S. A., 583
 Barkla, C. G., 44
 Barloutaud, R., 146, 149
 Barnard, J., 232
 Barnes, C. A., 75
 Barnes, R. F., 468
 Barnes, R. S., 243, 260, 272, 276, 277, 280
 Barrody, E. M., 264
 Barr, D. W., 490
 Barr, L. W., 165
 Barreau, P., 6, 31, 32, 34, 35, 155, 156
 Barrett, P., 138
 Bartholomew, R. M., 468
 Bartlett, J. H., 265
 Barton, G. W., 441
 Baruch, P., 193, 199, 204, 206
 Barut, A. O., 71, 434
 Baschek, B., 535
 Bashkin, S., 512, 529
 Basanova, V. M., 340
 Basolo, F., 286, 292, 299, 300, 301, 316, 320, 336, 337, 343
 Bass, R. F., 246
 Batalov, A. P., 335
 Batdorf, R. L., 200
 Batty, C. J., 191
 Bauer, R. W., 62, 75
 Baum, L. H., 592

Bauminger, R., 137, 149
 Beard, D. B., 66, 88, 118
 Beck, C. K., 237
 Becker, R. A., 524, 559
 Becker, W. E., 306, 338
 Beckman, O. T., 460
 Begemann, F., 488, 495, 496
 Bell, G. D., 517
 Bell, N. W., 451, 455
 Bell, R. P., 306, 307
 Bellamy, E. H., 180
 Bellicard, J., 6, 31, 32, 34, 35
 Belser, R. B., 165, 176
 Bemski, G., 191
 Benczer-Koller, N., 71, 148
 Benderskii, V. A., 583
 Benedek, G. B., 142
 Benedict, T., 194
 Bennemann, K. H., 265
 Berestetski, V. D., 398, 433
 Berger, S. B., 289
 Bergkvist, K. K., 165
 Bergström, I., 172, 439, 440, 465, 467
 Beringer, R., 83
 Bernardini, M., 54, 64, 67, 68, 74
 Bernas, R., 452, 456, 465, 466, 473
 Bernhard, F., 438, 440, 441, 442
 Bernstein, S., 147
 Beronius, P., 344
 Bertaud, C., 544
 Berthold, F., 11, 13, 16, 25, 26, 30, 31, 33, 37
 Bertinchamps, A. J., 583, 585, 586
 Bertocchi, L., 432, 434
 Beskow, F., 507
 Bethe, H. A., 9, 10, 54, 80, 84, 86, 118, 507, 512
 Betz, H., 161
 Beyer, N., 448, 450, 451, 462
 Bhanot, V. B., 524
 Bichsel, H., 75
 Biedelman, W. P., 540, 541
 Biedenharn, L. C., 8, 58
 Bienlein, H., 69
 Bieri, R., 473
 Bierlein, T. K., 260, 280
 Bigeleisen, J., 330
 Bilaniuk, O. M., 191, 207
 Billington, D. S., 243, 245, 256, 258
 Bincer, A. M., 70, 72
 Binkovskii, A., 174, 175, 176
 Biradar, N. S., 292
 Biram, J., 165
 Birkhoff, R. D., 167, 168, 169, 170
 Bisgaard, K. M., 460
 Bishop, G. R., 11, 13, 16, 18, 28, 31, 37, 38
 Bisi, A., 168
 Bizzell, O. M., 171
 Björken, J. D., 432, 433
 Björnholm, S., 173, 178
 Black, P. J., 147
 Blackburn, D. A., 165
 Blair, J. M., 179, 180
 Blanc, A., 208
 Blanchard, R. L., 167, 168, 169, 170
 Blandin-Vial, J., 465
 Blankenbecler, R., 432, 434
 Blankenship, J. L., 191, 193, 194, 201, 202, 206, 208, 211
 Blatt, J. M., 12, 29, 80, 83, 84
 Bleakney, W., 448
 Bleiberg, M. L., 280
 Bleidner, W. E., 169
 Bleuler, E., 56, 166
 Blewitt, T. H., 278
 Blin-Stoyle, R. J., 43
 Blois, M. S., Jr., 175, 583
 Blokh, G. A., 340
 Blokhin, G. B., 236
 Blokhintsev, D. I., 236
 Blue, J. W., 166
 Blumenfeld, A., 583
 Blumenfeld, L. A., 580, 581, 582, 583, 585, 586, 587, 588, 589, 590, 592
 Boag, J. W., 580, 581, 583, 585, 586, 587, 588, 589, 590
 Bobone, R., 68, 69
 Böckmann, K., 149
 Bodansky, D., 79-122; 90, 99, 100, 101, 104, 110, 112
 Boehm, F., 64, 75
 Boerboom, A. J. H., 448
 Boggs, J. E., 346
 Bogoliubov, N. N., 432
 Bogomazov, A. P., 201
 Bohr, A., 1, 2, 3, 4, 12
 Bohr, N., 80, 247
 Bok, J., 193, 210
 Bolef, D. I., 127, 135
 Bollinger, L. M., 133
 Boltax, A., 279
 Bommel, R., 200
 Bondar, A. D., 175, 176, 177, 178, 179
 Bondi, H., 534
 Bonner, N. A., 291, 292, 305, 330, 345, 456
 Bonner, T. W., 104
 Bonsack, W. K., 529, 540, 542
 Bonsignori, F., 433
 Booth, E. T., 459
 Booth, R., 100, 515
 Borell, P., 180
 Borisov, M., 201
 Borkowski, C. J., 168, 193, 194, 198, 201, 202, 208, 210, 211
 Borst, L. B., 222
 Bosco, B., 14
 Bosman-Crespin, D., 511
 Bostrom, C. O., 213
 Bottino, A., 434
 Bottreau, A., 580, 581
 Bouissières, G., 171
 Bouissières, M. G., 171
 Bounin, P., 11, 37
 Bovey, F. A., 243
 Bowcock, J., 432, 434
 Bowden, P., 276
 Bowkett, B. F., 179
 Box, H. C., 580, 581, 582, 586
 Boyd, A. W., 468
 Boyd, G. E., 459
 Boyd, W., 230
 Boyle, A. J. F., 137, 138, 142, 149
 Bradley, D. F., 174, 175
 Bradner, H., 175
 Bradow, R. L., 343
 Bradt, H. L., 56
 Brady, F. P., 83, 99, 106, 108, 109, 110
 Braid, T. H., 207
 Bramblett, R. L., 104
 Brandon, D. G., 270, 276
 Brans, C., 561
 Bransden, B. H., 433
 Breit, G., 141, 407, 417, 422, 427, 433
 Bremermann, H. J., 432
 Bretscher, M. M., 448
 Bridge, N. K., 308
 Brill, R., 336
 Brimacombe, J. S., 583
 Brimhall, J. E., 61, 69
 Brinkman, J. A., 243, 247, 252, 253, 260, 270, 271
 Britt, A. D., 289, 291, 296
 Britt, H. C., 104, 108, 191, 208, 209
 Brittain, J. W., 462
 Brix, P., 443, 445
 Broda, E., 456
 Brodski, A. I., 329
 Broek, H. W., 98, 104, 107
 Bromley, D. A., 191, 193, 203, 204, 205, 206, 207
 Brooks, H., 243, 259, 267
 Brosi, A. R., 69, 168, 346
 Bross, H., 265
 Broström, K. J., 460
 Brovetto, P., 54, 64, 67, 68, 74
 Brown, C. I., 305
 Brown, E., 257, 260, 265
 Brown, F., 172, 468
 Brown, G. E., 38
 Brown, H., 173, 305, 461

468, 475
 Brown, J., 154
 Brown, K. L., 10, 16, 18, 38
 Brown, R. E., 512
 Brown, W. L., 191, 196, 197, 201
 Browne, C. I., 462, 463
 Browne, C. P., 175
 Brownell, G. L., 214
 Brownlee, R., 532
 Brownstein, S., 336
 Broyles, C. D., 166, 167, 169
 Brubaker, C. H., 305, 306, 307
 Bruce, C. R., 289
 Bruce, G., 176, 180
 Bruninx, E., 164
 Buck, T. M., 198, 199
 Buechner, W. W., 439
 Buhl, P. A., 260, 280
 Bühring, W., 165
 Bujake, J. E., Jr., 344
 Bumiller, F., 15, 18
 Bunbury, D. St. P., 137, 138, 142, 149
 Bunn, D., 291, 297
 Bunnett, J. F., 329
 Burbidge, E. M., 462, 508, 509, 510, 513, 515, 528, 535, 537, 538, 539, 540, 541, 542, 543
 Burbidge, G., 507-76; 462, 508, 509, 510, 511, 512, 513, 515, 519, 528, 533, 534, 535, 537, 538, 539, 540, 541, 542, 543
 Burford, A. O., 167
 Burford, D. D., 168
 Burge, D. E., 342
 Burgman, J. O., 172, 466
 Burhop, E. H. S., 165
 Burleffinger, E., 443, 444
 Burns, F. P., 212
 Burwell, R. L., Jr., 344
 Busch, D. H., 287, 288, 292, 300
 Bush, P. D., 232
 Bussière de Nercy, A., 149
 Butement, F. D. S., 329, 441, 454
 Bykova, E. V., 334
 Byrne, J. T., 165

C
 Cacace, F., 351
 Cain, W. P., 339
 Caldecott, R. S., 596
 Calderazzo, F., 337
 Caldwell, P. A., 168
 Calvin, M., 583
 Camac, M., 448
 Camarcat, M., 171

Camera, E., 338
 Cameron, A. E., 459
 Cameron, A. G. W., 86, 89, 90, 119, 507, 508, 512, 513, 514, 515, 532, 551, 554, 556, 559, 561, 564
 Cameron, R. C., 510
 Campbell, C. G., 229
 Campbell, E. C., 147
 Campbell, E. J., 83
 Campion, P. J., 156, 159, 162
 Camplan, J., 452
 Capps, R. H., 434
 Cardew, M., 344
 Carlson, B. G., 229
 Carlson, M., 537, 538
 Carpenter, F. E., 161
 Carpenter, L. G., 306, 307
 Carrassi, M., 434
 Carswell, D., 163
 Carter, C., 229
 Carver, J. H., 114
 Castillejo, L., 38, 400, 403, 404, 433
 Cathey, L., 214
 Catron, H. C., 90
 Caughlan, G. R., 512
 Cavalleri, G., 203
 Cavanagh, P. E., 69, 70
 Cedarlund, R., 205
 Ceolin, C., 432, 434
 Chackett, K. F., 456
 Chadwick, J., 173
 Chamberlain, J. W., 535
 Chamberlain, O., 468, 470
 Chambers, B. R., 18
 Chambers, E. E., 18
 Champeney, D. C., 143
 Chandrasekhar, S., 507, 523, 550
 Chang, S. C., 347
 Chaplin, R. L., 275
 Charlesby, A., 243, 580, 581, 585, 586, 587, 589
 Charman, H. B., 339
 Sharpak, G., 158
 Chase, C. T., 45, 68
 Chase, R. L., 195, 201, 202, 203, 204, 206
 Chasman, C., 207
 Chasman, R., 88
 Chau, N. N., 580, 581, 587
 Chaudry, R., 209
 Cheek, C. H., 305
 Chen, J., 322
 Chen, J. R., 154
 Chernavski, D. S., 433
 Chetham-Strode, A., 173, 208
 Chew, G. F., 368, 391, 394, 402, 411, 422, 431, 432, 433, 434
 Chia, Y., 291, 294
 Chicherov, V. M., 276
 Chiu, H. Y., 547, 548, 549
 Choppin, G. R., 173

Christman, D. R., 292
 Ch'u, S. L., 437
 Chuckov, P. M., 170, 178
 Chupka, W. A., 438, 439
 Chynoweth, A. G., 189, 191, 195, 200
 Cindro, N., 106, 107
 Cini, M., 433
 Clancy, E. F., 254
 Clark, D., 348
 Clark, M. A., 512
 Clark, T. J., 337
 Clark, W. G., 229
 Clayton, D. D., 515, 516, 517, 527, 563
 Clegg, P. L., 175, 176
 Cleland, J. W., 246
 Climenhaga, J. L., 543
 Clough, P. J., 175
 Cloutier, J. A. R., 583
 Clusius, K., 332, 348
 Cochran, D. R. F., 138, 139, 144, 149
 Coekelbergs, R., 348
 Cohen, B. L., 88, 98, 101, 102, 112, 114, 116, 181
 Cohen, D., 303, 304
 Cohen, R., 149
 Cohen, S. G., 137, 149
 Cole, H., 201
 Cole, R. K., 90, 99, 100, 101, 104, 110, 112
 Cole, T., 582, 584, 585
 Cole, T. E., 221-42; 233
 Coleman, C. F., 69, 70
 Colgate, S. A., 521, 567
 Colli, L., 102, 117
 Collins, C. B., 468, 472
 Collins, M. A., 583
 Collins, T. L., 438, 439, 441, 448, 451
 Coltman, R. R., 278
 Combrisson, J., 580, 581, 583
 Comes, F. J., 450
 Compton, D. M. J., 123, 140
 Compton, K. T., 439
 Condon, E. U., 456
 Conger, A. D., 583, 586, 592, 593, 594, 595, 596, 597, 598
 Conn, E. E., 168
 Conn, P. K., 346
 Conner, J. P., 173, 179
 Cook, C. S., 166, 173
 Cook, G. B., 180
 Cook, L. F., 432
 Copper, J. N., 175
 Corbett, J. W., 255, 256, 261, 273, 274
 Cordes, A. W., 332
 Corelli, J. C., 179
 Cormier, R. F., 468
 Corson, D. R., 43
 Coste, M., 206
 Coté, R. E., 133

AUTHOR INDEX

Cotelle, S., 170
 Cotte, M., 448
 Cottingham, N., 434
 Cotton, E., 149
 Cotton, F. A., 338
 Cotton, P., 175
 Cottrell, A. H., 243, 272, 276, 277
 Coveyou, R. R., 230
 Cowan, C. L., 549
 Cowart, W. S., 459
 Cox, A. N., 532, 556
 Cox, J., 511
 Cox, J. A. M., 44
 Cox, L. A., 175
 Cox, L. T., 344
 Cracco, F., 350
 Craig, D. S., 175
 Craig, P. P., 134, 135, 138, 149
 Craig, R. D., 437, 447, 451, 455
 Craig, R. P., 305
 Cram, D. J., 333, 340
 Cranberg, L., 96
 Crane, H. R., 68, 69
 Crannell, H., 6, 18, 32, 35, 36
 Cranshaw, T. E., 143
 Cranston, F. J., Jr., 169, 171, 176
 Craven, J. H., 158
 Crawford, G. W., 213
 Crawford, J. A., 511
 Crawford, J. H., Jr., 243, 245, 246, 256, 258
 Crespi, H. L., 334
 Critchfield, C. L., 507
 Crittenden, E. C., Jr., 174
 Croissiaux, M., 18
 Cronheim, G., 349
 Cross, W. G., 90, 99, 100, 101, 104, 110, 112
 Crowe, K. M., 62
 Culligan, G., 62
 Curcio, J. A., 161
 Curtis, H. J., 596
 Cushing, R. L., 252
 Cutkosky, R. E., 74, 368, 373, 379, 380, 432
 Czaja, W., 191
 Cziffra, P., 433

D

Dabbs, J. W. T., 190, 193, 213
 Dacey, G. C., 200
 Dahl, G. H., 332
 Dainton, F. S., 291, 297, 349
 Dalitz, R. H., 11, 400, 403, 404, 433
 Daily, E., 15, 18
 Daly, N. R., 441, 442, 451
 Dam, Ph., 178
 Damask, A. C., 265, 266, 276

Damodaran, K. K., 167
 Danos, M., 6
 Darbee, L. R., 330, 339
 Dash, J. G., 134, 135, 138, 149
 Da Silva, E. M., 176
 Davidon, W., 432
 Davidson, N., 296, 305
 Davies, H., 10
 Davies, J., 172
 Davies, J. A., 252, 280, 281
 Davis, G. L., 468, 476
 Davis, H. W., 201
 Davis, R., Jr., 488
 Davis, S. P., 141
 Davis, W. D., 191, 200, 214
 Davison, W. H. T., 157
 Dawton, R. V. M., 439, 452, 460, 464
 Dearnaley, G., 175, 193, 199, 200, 204, 205, 207, 208, 209, 210
 DeBenedetti, S., 64, 74, 142
 de Boisblanc, D. R., 234
 Debye, P., 129
 Deck, C. F., 287, 292, 299
 de Cosmac, B., 210
 de Croëss, M., 157, 158, 164, 165, 166
 Dedov, V. B., 179, 178
 DeFelice, J., 488, 489
 DeGroot, S. R., 68, 69
 Dehmelt, H. G., 443, 445
 deJong, M., 276
 de la Mare, P. B. D., 350
 Delavignette, P., 260, 280
 Delbrück, M., 144
 Delihas, N., 506
 DeLyser, H., 213
 de Martini, F., 206
 Dempster, A. J., 437, 447, 470, 471
 Denney, J. M., 255, 256, 261, 279
 Dennison, D. M., 448
 DePasquali, G., 68, 69, 71, 135
 Deren, J., 348
 Desai, B. R., 433
 Descamps, M., 175
 DeShalit, A., 68
 Dessy, R. E., 334, 335
 Deuchars, W. M., 209
 Deutsch, M., 56, 62, 66, 71, 75
 Devienne, M. M., 176
 de Vries, A. E., 346
 Diamond, H., 462, 463, 468
 Dickey, R. H., 126, 559, 561, 562
 Diddens, A. N., 63
 Diebler, H., 308
 Dieleman, J., 308, 319
 Dienes, G. J., 243, 246, 257, 258, 265, 266, 276
 Dietrich, M., 289, 292, 298, 299

Dietz, K., 434
 Dietz, L. A., 451
 Dixon, W. R., 85
 Dodge, W. R., 14, 19
 Dodson, R. W., 153, 162, 163, 164, 167, 170, 171, 179, 180, 291, 296, 297, 302, 306, 307
 Doggett, J. A., 67
 Dogonadze, R. R., 309
 Dole, M., 350
 Domokos, G., 434
 Donahue, D. J., 175
 Dondes, S., 346
 Donovan, P. F., 189-220; 193, 194, 196, 199, 201, 203, 204, 205, 206, 212
 Dopchie, H., 232
 Dorfman, M. C., 307, 318
 Dorlet, C., 583, 585, 586
 Dörnenburg, E., 443
 Dostrovsky, I., 84, 88, 90, 99, 114, 115, 529
 Douglas, A. C., 82, 83, 91, 96, 109, 119
 Douglas, D. G., 158
 Douglas, R. A., 179
 Douzou, P., 583
 Downing, J. R., 158
 Downs, J. J., 348
 Drago, R. S., 347
 Drell, S. D., 8, 9, 24, 396, 433, 434
 Dremin, I. M., 433
 Drever, R., 142
 Drost-Hansen, W., 172, 463
 Drummond, W. E., 8
 Duckworth, H. E., 156, 437, 441
 Duckworth, S., 291, 297
 Dudelzak, B., 16, 27, 30
 Duffield, R. B., 515
 Dugdale, R. A., 256
 Duimio, F., 434
 Duke, F. R., 302
 Dumezil-Curien, P., 556
 Dunford, H. B., 338
 Dunlap, H. L., 194, 212
 Dunlap, W. C., Jr., 191
 Dunmar, I., 191
 Dunn, R. W., 168
 Dunning, J. R., 459
 Dunoyer, M. L., 175
 Dupont, J. A., 345
 Durand, L., III, 6, 7
 Dutka, F., 339, 348
 Dwyer, F. P., 287, 292, 299
 Dyson, F. J., 400, 403, 404, 433
 Dyson, J., 155
 Dyson, J. A., 29

E

Earley, J. E., 295
 Eastham, J. F., 341

Eastwood, T. A., 164
 Eberhardt, P., 461, 468, 483, 488
 Ebert, K. H., 456, 486, 488
 Eden, R. J., 432
 Edge, R. D., 25, 26, 27, 30, 31, 33
 Edwards, C., 137, 138, 142, 149
 Edwards, D. F., 169
 Edwards, D. N., 432
 Edwards, G., 456
 Efremov, A., 434
 Egelstaff, P. A., 143
 Eggen, D. T., 256
 Egorova, L. A., 338
 Ehrenberg, A., 580, 581, 583, 584, 585, 586, 588, 590, 592, 593, 594, 595, 596, 597, 598
 Ehrenberg, L., 580, 581, 583, 584, 585, 586, 588, 590, 592, 593, 594, 595, 596, 497, 598
 Ehrenberg, T., 592, 593, 594, 595, 596, 597
 Ehret, C. F., 592, 593, 594, 595, 596
 Ehrlinger, D. B., 169
 Ehrman, J. R., 134
 Eicher, H., 149
 Eichler, E., 287, 292, 298, 299
 Edson, W. W., 207
 Eigen, M., 308
 Eilers, D., 556
 Eimer, L., 292
 Einstein, A., 142
 Eisberg, R. M., 97, 103, 106, 107, 115
 Eisen, F., 256
 Elbek, B., 172, 460
 Elliott, J. H., 194, 207, 211
 Elliott, R. M., 451, 455
 Ellis, C. D., 173
 Ellis, C. E., 176
 El-Nadi, M., 90
 Emlyanov, A. S., 175, 177, 178, 179
 Emmanuel-Zavizziano, H., 171
 Emmer, T. L., 202
 Endt, P. M., 175
 Enge, H. A., 157
 Engelkemeir, D. W., 166
 Epstein, S., 440, 453, 476
 Erb, E., 581
 Erba, E., 108, 110, 112, 118
 Erbacher, O., 171
 Ercoli, R., 337
 Erickson, E. F., 21
 Ericson, T., 80, 81, 82, 83, 84, 86, 91, 95, 96, 101, 116, 117
 Erlich, G., 336
 Erman, P., 165, 167, 176
 Errock, G. A., 437, 447, 451, 455
 Evans, J. A., 38
 Eve, C. F., 441
 Ewald, H., 443, 444, 450, 472
 Ewan, G. T., 194, 208, 210
 Ewing, R. I., 206
 Eyring, H., 286, 309, 310

F

Facchini, U., 99, 102, 108, 110, 112, 117, 118
 Fagg, L. W., 44, 55, 57
 Fairbairn, H. W., 468
 Fairstein, E., 201, 203
 Falk, K., 195
 Falkoff, D. L., 44
 Fallieros, S., 6
 Famularo, K. F., 179, 180
 Fan, C. Y., 214
 Fan, H. Y., 190
 Fano, U., 46, 191
 Farooqui, A. Z., 191
 Faul, H., 476
 Faulkner, D. J., 534
 Faustov, R. N., 434
 Fava, A., 338
 Fechter, H. R., 16
 Fechtig, H., 489
 Federbush, P., 434
 Fein, A. E., 255, 256
 Feinberg, S. M., 230, 233
 Fekete, E., 142
 Felber, F., 154
 Ferguson, A. J., 512
 Ferguson, A. T. G., 207, 208, 209, 210
 Ferrari, E., 433
 Ferrell, R. A., 6
 Ferroni, S., 54, 64, 67, 68, 74
 Feshbach, H., 80, 82, 83, 245
 Fessenden, R. W., 582, 584, 585
 Feynman, R. P., 547
 Fickel, H. R., 471, 472
 Fields, P. R., 462, 463, 468, 469
 Fierz, M., 432
 Figgis, B. N., 307
 Finikov, V. G., 346
 Fink, R. W., 88, 102, 464, 466
 Finkelstein, N. P., 441, 454
 Finn, A. C., 434
 Finston, H. L., 456
 Fireman, E. L., 488, 489
 Firsov, O. B., 253
 Fish, R. A., 563
 Fisher, D. E., 98, 489
 Fishman, J. B., 166, 167

Fiske, M. D., 255, 256, 261
 Flagg, J. F., 169
 Flashen, A., 199
 Fleischmann, R., 69
 Fleming, W. H., 472
 Flood, W. F., 195
 Flournoy, J. M., 592
 Fluit, J. M., 276
 Fodor, G., 181
 Fong, P., 90
 Ford, G. W., 70
 Ford, K. W., 18, 30, 31
 Ford-Smith, M. H., 291, 298, 306, 307
 Foreman, B. M., 194, 204, 212
 Forsling, W., 172, 465
 Fowler, M., 432
 Fowler, T. K., 8
 Fowler, W. A., 462, 493, 508, 511, 512, 513, 515, 516, 517, 518, 519, 522, 524, 525, 527, 528, 529, 530, 540, 542, 549, 554, 558, 559, 560, 561, 562, 563, 564
 Fox, R., 97, 106, 108
 Fox, R. E., 456
 Fox, R. J., 194, 198, 207, 210, 211
 Foy, P. W., 200
 Fraenkel, Z., 84, 88, 90, 99, 114, 115, 529
 Frank, S. G. F., 62
 Frankel, S., 75
 Frank-Kamenetskii, D. A., 527
 Franz, W., 58
 Franzen, J., 445
 Fraser, J. S., 164
 Fraser, R. T. M., 293, 295, 324
 Frauenfelder, H., 68, 69, 71, 123, 135, 139, 140, 144, 165, 166
 Frautschi, S., 411, 428, 431, 433, 434
 Frazer, W., 407, 433, 434
 Freck, D. V., 212
 Freedman, M. S., 166
 Fregeau, J. H., 18, 30
 Freiser, H., 456, 457
 Freund, H. G., 580, 581, 582, 586
 Fricke, G., 11, 13, 16, 25, 26, 30, 31, 33, 37
 Fried, S. M., 462, 463
 Friedland, S. S., 200, 203, 208, 213
 Friedlander, G., 84, 88, 90, 114, 115, 171, 286, 456
 Friedman, A. M., 462
 Friedman, J. L., 18, 21, 24
 Friedman, L., 456, 473

AUTHOR INDEX

Fritze, K., 470, 471, 472, 474
 Froese, G., 581, 585
 Frohlich, F., 269
 Froissart, M., 371, 430, 434
 Frolov, G. V., 6
 Fronsdal, C., 71, 74
 Fubini, S., 359-434; 14, 433, 434
 Fujiwara, Y., 583, 585, 586
 Fukushima, S., 291
 Fulbright, H. W., 104
 Fulco, J. R., 433, 434
 Fuller, H. W., 549
 Funsten, H., 206
 Furman, S. C., 290, 291
 Furukawa, M., 97, 114

G

Gal, D., 339, 348
 Galavanov, V. V., 246
 Gall, J. S., 343
 Galonsky, A. I., 69
 Galster, S., 74
 Galzenati, E., 432
 Gamow, G., 507, 509, 534, 546
 Gandel'man, G. M., 547
 Gant, P. L., 350
 Gaposchkin, C. P., 545
 Gard, G. A., 69, 70
 Gardner, D. G., 99
 Gardner, I. J., 330
 Garner, C. S., 288, 290, 291, 292, 303, 348, 349
 Garrett, A. B., 335
 Garrison, W. M., 243
 Gasiorowicz, S., 434
 Gast, P. W., 479
 Gasten, B. R., 179
 Gates, H. S., 291
 Gates, J. E., 169
 Gatland, I. R., 433
 Gatti, E., 203, 206
 Gavrilov, K. A., 171, 175, 179
 Geiger, J. S., 172
 Geilmann, W., 456
 Geiss, J., 456, 479, 481, 482, 483, 488
 Gelberg, A., 139
 Gell-Mann, M., 428, 432, 434, 547
 Gelormini, O. J., 201
 Genovese, F., 139
 Gens, T. A., 346
 Gentner, W., 456, 484, 489, 494, 495, 496
 George, G., 191
 George, J. W., 338
 George, P., 286, 313, 323
 George, R., 456, 473
 Gerhart, J. B., 75
 Gerling, E. K., 481, 482, 495, 496
 Gerlit, Y. B., 98
 Geusic, J. E., 583
 Ghiorsa, A., 173, 462, 463
 Ghirardelli, R. G., 340
 Ghosh, D. K., 581, 582, 585
 Ghoshal, S. N., 97
 Gibbons, J. H., 515
 Gibbons, P. E., 191
 Gibson, J. B., 253, 258, 260, 261, 263, 265, 266, 272, 274, 278
 Gibson, L. E., 441
 Gibson, W. M., 189-220; 195, 196, 199, 200, 201, 202, 203, 209, 212
 Giedd, G. R., 176
 Gilbert, F. W., 230
 Gilbert, W., 432
 Gilks, S. W., 306, 307
 Gindler, J. E., 462
 Ginoza, W., 580, 581, 588
 Ginsborg, B. L., 175
 Ginsburg, V. L., 565, 566, 567, 568
 Gittelman, B., 62, 75
 Giuli, R., 511
 Giuliano, C. R., 289, 293, 315
 Givens, M. P., 175
 Gjertsen, L., 287, 291, 296
 Glaser, V., 432
 Glendenin, L. E., 472
 Glover, K. M., 180
 Glover, R. N., 88, 102, 103, 104, 110, 115
 Goebel, C., 433
 Goebel, K., 473, 488
 Goedecke, G. H., 257, 260, 265
 Goertzel, G., 230
 Goishi, W., 305, 330
 Goland, A. N., 243-84; 253, 258, 260, 261, 263, 265, 266, 267, 272, 274, 278, 279, 280
 Gold, T., 529, 534
 Goldberg, L., 535, 541
 Goldberger, M. L., 389, 432, 433, 434
 Goldblatt, M., 179
 Goldemberg, J., 11
 Goldhaber, M., 61, 62, 63, 74
 Goldin, A. S., 468, 470
 Goldman, A., 339
 Goldsmith, G. J., 190
 Goldstein, N., 515
 Goles, G. G., 494, 563
 Golovnya, V. Ya., 175
 Gonser, U., 279
 Gooding, T. J., 209
 Goodman, C., 175, 176
 Gordon, A. S., 349
 Gordon, B. M., 287, 291, 292, 296, 301, 456, 473
 Gordon, G., 305
 Gordon, G. E., 206
 Gordy, W., 578, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 592
 Gorin, E., 349
 Gorman, J. G., 437
 Gorodyskii, V. A., 163
 Gorshov, V. K., 472
 Gossick, B. R., 190
 Goudsmit, S., 45
 Goulding, F. S., 199, 201, 203
 Gourdin, M., 434
 Govaerts, J., 168
 Gove, H. E., 512
 Grace, M. A., 43
 Graham, R. L., 172, 468, 472
 Grainger, R. J., 213
 Gram, P. A. M., 21
 Grant, I. S., 229
 Grant, P. M., 583
 Grasberger, W., 521, 567
 Graves, A. C., 153, 162, 163, 164, 167, 170, 171, 179, 180
 Graves, E. R., 179
 Graves, J. D., 168
 Gray, H. B., 343
 Grebe, L., 158
 Green, A. E. S., 18, 30, 31
 Green, B. C., 592
 Green, D. W., 156
 Greenberg, J. S., 207
 Greenstein, J. L., 529, 530, 535, 536, 538, 540, 542, 543, 544, 545, 564
 Greenwood, J. W., 239
 Grenall, A., 260, 271, 280
 Greuling, E., 230
 Gribov, V. N., 434
 Griess, J. C., Jr., 168, 169
 Griffith, J. S., 286, 313, 323
 Griffith, R. J., 191
 Griffy, T. A., 8
 Grisaru, M., 433
 Grisebach, H., 329
 Grishko, N. I., 338
 Grodzins, L., 61, 62, 63, 71, 74, 75, 139
 Gropp, A., 98
 Grosse, A. V., 459
 Grossete, B., 18, 38
 Grover, J. R., 98, 112, 180
 Groves, K. O., 307
 Gruhn, C. R., 90, 92, 99, 100, 101, 104, 110, 112, 113
 Grunwald, E., 330
 Gryazev, V. M., 230, 233
 Gryder, J. W., 302, 307, 318
 Guczi, L., 339, 348

Gudden, F. E., 11, 13, 16, 25, 26, 30, 31, 33, 37
 Gugelot, P. C., 103, 106, 115
 Gunnerson, E. M., 191
 Gunst, S. B., 58, 59, 60
 Günther, K., 69
 Gunther, P. Z., 349
 Guntherschulze, A., 161
 Gupta, R. K., 465
 Gur'ianova, E. N., 338
 Gusakow, M., 466
 Guskov, Yu. K., 167, 176
 Guth, E., 14
 Gutowsky, H. S., 330, 338
 'Guyen, N., 456, 473
 Gyarfas, E. C., 287, 292, 299

H

Haag, R., 432
 Haber, A. H., 592, 593, 594, 595
 Haber, H., 348
 Haberfield, P., 340
 Haber-Schaim, U., 432
 Hack, M., 539
 Haddock, R. P., 62
 Haenny, Ch., 168
 Haffner, J. W., 175
 Hahn, B., 16
 Hahn, O., 460
 Hahn, P. F., 168
 Haim, A., 299
 Haimerl, H., 332, 348
 Hainzelin, J., 240
 Haissinsky, M., 165, 170, 171
 Halban, H., 43
 Halbert, M. L., 191, 200, 206
 Hall, L. G., 448
 Häller, I. B., 172, 464, 466
 Halpern, A., 348
 Halpern, I., 90, 91, 92, 93, 99, 100, 101, 104, 110, 112, 114
 Halpern, J., 286, 290, 298, 307, 309, 318, 319, 323
 Halpern, O., 58
 Hamada, T., 551, 553
 Hamaguchi, H., 482
 Hamann, A. K., 207
 Hamburger, E. W., 114
 Hamermesh, M., 138, 139, 148
 Hamill, W. H., 243
 Hamilton, D. R., 44, 166
 Hamilton, J., 434
 Hanbury Brown, R., 568
 Hance, A. B., 451
 Handler, G. S., 335
 Handley, T. H., 169
 Hanks, R. V., 132
 Hanna, G. C., 179

Hanna, M. W., 583
 Hanna, R. C., 56
 Hanna, S. S., 44, 55, 57, 73, 137, 138, 139, 148, 149
 Hannay, N. B., 451, 455
 Hanrahan, L. R., 451
 Hansen, P. G., 75
 Hansen, W. L., 199, 201, 203
 Hanson, A. O., 18, 43, 71
 Harbottle, G., 306, 307, 351
 Harding, W. R., 201
 Hardy, R. W. D., 451
 Harker, D., 162
 Harkness, A. C., 307
 Härn, R., 509, 510
 Harmatz, B., 169
 Harris, D., 566
 Harris, G. M., 330, 339
 Harris, L., 160, 161
 Harris, S. M., 148
 Harris, W. E., 351
 Harrison, A. D. R., 170
 Harrison, A. G., 338
 Harrison, J. R., 229
 Harrison, K., 549, 551
 Harrison, W., 257, 258
 Hart, E. J., 577
 Harteck, P., 346
 Hartmann, W., 440
 Harvey, B. G., 173
 Haselgrove, C. B., 509, 535
 Haslett, J. W., 203, 211, 212
 Hass, G., 160, 175
 Hatcher, R. D., 253
 Hauser, U., 149, 160
 Hauser, W., 82
 Hawkings, R. C., 158, 468
 Hawthorne, M. F., 334, 341, 345
 Haxel, O., 166
 Hay, H. J., 143
 Hayakawa, S., 529
 Hayashi, C., 507, 510, 512, 532
 Hayden, R. J., 440, 456, 465, 470, 471, 472, 475
 Haynes, J. R., 195
 Haynes, S. K., 166, 167, 169
 Hays, E. E., 441
 Hayward, R. W., 43, 45
 Hazard, C., 568
 Hearn, A. C., 432
 Hearst, J. R., 102, 103, 104
 Heartley, J. C., 207
 Heavens, O. S., 175, 176
 Hebeda, E., 445
 Heberle, J., 137, 138, 139
 Hedgran, A., 167
 Hefley, J. D., 305
 Heil, H., 438

Hein, R. E., 346
 Heinberg, M., 71, 73
 Heinrich, S. T., 207
 Heintze, J., 165
 Heisenberg, W., 432
 Heitler, W., 9, 11, 44, 55, 57, 66, 69, 74, 146
 Helfer, H. L., 536, 538
 Helfrich, F., 456, 457
 Heller, C., 582, 584, 585
 Hellwell, T. M., 517
 Helm, R. H., 5, 6, 16, 18, 29, 30, 31, 32, 35, 36
 Helmholtz, L., 153, 162, 163, 164, 167, 170, 171, 179, 180
 Hemmendinger, A., 461
 Henchman, M., 351
 Henderson, D. J., 468
 Hendrie, J. M., 233
 Henkel, R. L., 99
 Hennig, M., 161
 Henrich, L., 507
 Henriksen, T., 580, 581, 585, 586, 587, 588, 589, 590, 592
 Henry, B., 201
 Hensley, J. W., 171
 Herb, R. G., 175
 Herber, R. H., 329-58; 329, 332, 336, 342, 347
 Hereford, F. L., 55
 Herman, R. C., 507, 534
 Hernegger, F., 488
 Herr, W., 171, 351, 461, 468, 479
 Herrlander, C. J., 467
 Herrmann, G., 168, 169
 Herzog, L. F., 479
 Herzog, R., 445, 446, 447, 448, 450
 Hess, D. C., 440, 451, 456, 461, 462, 463, 468, 469, 471, 472, 475, 480, 481, 482, 483, 488
 Hess, D. C., Jr., 471
 Hevesy, G., 285, 455
 Hey, J. S., 532
 Heyd, J. W., 170
 Heydenburg, N. P., 1
 Heymann, D., 489
 Hibdon, C. T., 95
 Hickam, W. M., 454
 Hicklin, W. H., 165, 176
 Hickman, B. S., 267, 268
 Higgins, G. H., 462, 463
 Higginson, W. C. E., 290, 291, 307, 315, 319
 Higinbotham, W. A., 201, 202
 Hill, H. A., 175
 Hilsum, C., 201
 Hindman, J. C., 303, 304
 Hine, J., 340
 Hines, C. K., 448
 Hines, R. L., 18
 Hintenberger, H., 435-508;

AUTHOR INDEX

439, 443, 444, 448, 450,
451, 455, 456, 461, 468,
469, 481, 482, 483, 484,
485, 489, 490, 491, 495,
496
Hintz, N., 108, 110, 116
Hipple, J. A., 437, 448,
456
Hiras, K., 346
Hirsch, A., 468
Hirsch, P. B., 271
Hirt, B., 479, 481, 483,
488
Hitchcock, A., 191
Hoffmann, J. H., 484
Hoffmeister, W., 479
Hofstadter, R., 11, 16, 18,
189, 586
Hogg, W. L., 180
Hogness, T. R., 332
Höhler, G., 434
Hoijsink, G. J., 308, 319
Hojo, M., 343
Hok, O. P., 166
Holland, L., 158, 160, 164
Holland, R. E., 148
Holm, C. H., 330, 338
Holm, L. W., 172
Holm, W. M., 131
Holmes, D. K., 246, 247,
251, 257, 260, 278
Holmgren, H. D., 179, 180,
511
Holt, J. R., 62
Holt, R. B., 98
Honda, M., 456, 476, 484,
485, 486, 490, 492
Honecuy, E., 472
Honig, R. E., 454
Hopkins, J. C., 75
Hoppes, D. D., 43, 45
Horl, E. M., 350
Horn, A., 205
Hornbostel, J., 55
Horne, R. A., 291, 292,
296, 297, 299
Horsfield, A., 582, 584
Horsley, R., 468, 472
Hotz, G., 583, 592, 593,
595
Houtermans, F. G., 166,
479, 507
Howe, F. A., 175, 176
Howell, J. S., 175, 176
Hoyle, F., 462, 493, 508,
509, 511, 512, 513, 515,
518, 519, 522, 525, 529,
534, 535, 542, 547, 549,
554, 559, 560, 561, 562,
563, 570
Hubbard, E. L., 214
Hubbert, H. E., 343
Hubble, E., 545
Huby, R., 1, 2, 4
Hudis, J., 115, 291, 296,
297, 529
Hudson, R. P., 43, 45
Hudswell, F., 180
Hufford, D. F., 153, 162,
163, 164, 167, 170, 171,
179, 180
Hughes, D. J., 515
Hughes, E. D., 339
Huiskamp, W. J., 63
Huizinga, J. R., 83, 88,
100, 119, 209, 462, 468,
471
Hulet, E. K., 462
Hull, M. H., 433
Hull, T. E., 515, 516, 517,
563
Humblet, J., 511
Hunger, K., 542
Hunt, J. B., 295
Hunt, J. P., 292, 342
Hunting, C. E., 95, 108
Huntington, H. B., 254,
264, 265
Hurwitz, H., 86, 118
Hurwitz, H., Jr., 254
Hush, N. S., 309, 311, 313,
314, 317, 318
Huster, E., 159
Huston, J. L., 329, 342,
343
Huus, T., 1, 2, 3, 4, 12,
460
Hyde, E. K., 173
Hyman, H. H., 346

I

Iakovleva, A. E., 334
Igo, G., 83, 100, 103, 106,
107, 115
Igo, K., 432
Illiceto, A., 338
Im, Y. A., 287, 288, 292,
300
Imai, H., 304
Imai, Y., 581, 584, 588,
589
Inada, T., 515
Indelli, A., 305
Ingalls, R., 142, 149
Ingram, M. G., 438, 439,
440, 441, 450, 451, 455,
461, 462, 463, 464, 468,
469, 470, 471, 472, 475,
562
Ingold, C. K., 339
Ingram, D. J. E., 578, 580
Inman, M. C., 165
Inopin, E. V., 6
Inskeep, C. N., 207
Iori, I., 99, 102, 117
Irvine, D. H., 298, 307
Irvine, J. W., Jr., 168, 180
Isabelle, D. B., 11, 13, 16,
28, 38
Isenberg, I., 583
Islam, M. M., 432
Ito, K., 527
Itoh, K., 581, 582, 587

Ivanov, R. N., 165, 166,
175, 176
Ivin, K. J., 349
Iwata, S., 97, 114
Iyer, R. M., 351
Izraelevich, E. A., 340
Izumo, K., 6
Izvekov, V. I., 165

J

Jaccarino, V., 142
Jack, W., 88, 99, 108
Jackson, H. E., 133
Jackson, N., 165, 167
Jackson, R. S., 199
Jackson, W. M., 167
Jacob, C., 8
Jacob, K. P., 170
Jacobi, E., 167, 169
Jacobi, R. B., 456
Jacobson, L., 179
Jacobson, M. J., 19
Jaeger, J. C., 486
Jaksic, B., 71
Janarek, F. J., 210, 211,
212
Jander, G., 342
Jankus, V. Z., 6, 21, 22
Jannez, M., 157
Jansen, P., 443, 444
Jaseja, T. S., 581, 582,
584
Jenkins, F. E., 330
Jenkins, W. J., 214
Jensen, E. N., 162, 166,
175
Jensen, J. H. D., 126, 128
Jensen, K. F., 456
Jha, S., 149
Johannsson, C. M., 170
Johansson, S. A. E., 518
John, W., Jr., 97
Johnson, E. G., 447
Johnson, G. L., 167
Johnson, H. M., 534
Johnson, L. F., 342
Johnson, M. H., 521, 567
Johnson, R. A., 265
Johnson, R. C., 301
Johnson, R. E., 306, 336,
337, 338, 350
Johnson, R. L., 511
Johnson, W. H., Jr.,
524
Johnson, W. R., 87
Johnston, H. S., 330
Johnston, W. H., 348
Jones, E. J., 437
Jones, L. J., 280
Jordan, E. B., 447
Josephson, B. D., 141
Joyner, W. T., 209
Jugaku, J., 510, 539,
540
Jung, B., 465, 466
Jurasova, V. E., 276

K
 Kagan, Y., 131
 Kaganov, M. I., 281
 Kahn, B., 167, 168, 169, 170
 Kahn, M., 305, 306, 332, 344
 Kaiser, W., 200, 213
 Kalinachenko, V. R., 340
 Kallman, H., 200, 201
 Kalmanson, A. E., 580, 581, 582, 583, 585, 586, 587, 588, 589, 590, 592
 Kalnins, I. L., 199
 Kalvius, M., 149
 Kamke, D., 439
 Kammerer, O. F., 260, 280
 Kammuri, T., 98, 107
 Kanazawa, A., 434
 Kane, J. V., 206
 Kankeleit, E., 144, 149
 Kantele, J., 464, 466
 Kaplan, M., 134, 142, 149
 Karamyan, A. S., 98
 Karev, V. N., 175, 176
 Karmohapatro, S. B., 448
 Karplus, R., 432, 434
 Karpov, T. P., 335
 Karpov, V. L., 350
 Karush, F., 345
 Kashy, E., 179
 Kastler, A., 144
 Katakis, D., 332
 Katayama, M., 581, 582
 Katz, J. J., 167, 170, 334, 346
 Katz, R., 154
 Kauder, L. N., 330
 Kauffman, J. W., 275
 Kaufman, J. J., 331, 334
 Kaufman, S., 102
 Kaufmann, B., 126, 133
 Kavanagh, R. W., 511, 512
 Kazarinov, Yu. M., 433
 Kazarovskii, M. V., 131
 Keberle, E. M., 88
 Keeley, D. F., 336, 337
 Keenan, C. W., 341
 Keenan, T. K., 304
 Kehler, H., 160
 Keil, K., 495, 496
 Keim, C. P., 459
 Keister, G. L., 168
 Kelber, C. N., 229
 Kelly, E. J., 341
 Kelly, J. C., 165
 Kelly, R., 172
 Kelly, R. L., 175
 Kelman, V. M., 169
 Kelsch, J. J., 260, 280
 Kendall, H. W., 6, 15, 18, 21, 31, 32, 35, 36
 Kende, I., 348
 Kennedy, J. M., 204
 Kennedy, J. W., 286, 456
 Kennett, T. J., 471
 Kerler, W., 160
 Kerns, Q., 214
 Kerst, D. W., 18
 Kerth, L., 432
 Ketelle, B. H., 69
 Keude, I., 339
 Keuper, J. P., 55
 Khelebiknov, G. I., 171, 175, 179
 Khuri, N. N., 432
 Kibble, T., 432
 Kieffer, D. G., 9
 Kienberger, C. A., 468, 470
 Kienle, P., 149
 Kier, P., 229
 Kigoshi, K., 515
 Kilmentov, V. B., 230, 233
 Kilsby, E. R., 232
 Kinchin, G. H., 243, 257, 258, 264, 268, 269
 King, E. L., 291, 293, 294, 295
 King, P., 287, 292, 299
 King, R. B., 517
 Kingsbury, C. A., 333, 340
 Kinman, T., 538
 Kinney, W. E., 230
 Kirby-Smith, J. S., 581, 583, 585, 586, 587, 592, 593, 594, 595
 Kirchner, F., 441
 Kirsten, T., 481, 482, 483
 Kirzhnits, D. A., 555
 Kistner, G., 489
 Kistner, O. C., 137, 138, 142, 149
 Kittel, C., 61
 Klabunde, C. E., 278
 Klapisch, R., 466
 Klein, A., 432
 Klein, O., 44, 55, 57, 58, 507
 Klein, R., 350
 Kley, W., 456
 Klimentov, V. B., 233
 Kline, R. J., 304
 Klingensmith, R. W., 200
 Klingmüller, W., 592, 593, 594, 596, 597
 Klontz, E. E., 256
 Kluwyer, J. C., 62, 459
 Klyuchkova, V. P., 167, 176
 Klyucharev, A. P., 175, 176, 177, 178, 179
 Knewstubb, P. F., 439
 Knight, G. B., 468, 470
 Knight, H. W., 190, 193
 Knight, J. A., 331, 345
 Knop, C. P., 307
 Knorre, K. G., 481, 482
 Knox, G. R., 340
 Knox, W. J., 83, 104, 114
 Ko, R., 170, 171, 178
 Koch, J., 172, 439, 440, 452, 460, 463, 464, 465, 467
 Koch, L., 190, 191, 200, 212, 214, 348
 Koch, M., 339
 Koch, R., 580, 581, 586
 Kocharov, G. E., 171, 179
 Koedam, M., 276, 277
 Koehler, J. S., 243, 245, 247, 257, 266, 274
 Kofod-Hansen, O., 66, 172, 463, 465
 Kogan, A. V., 190
 Kohman, T. P., 468, 469, 492, 494, 559
 Koltypin, E. A., 180
 Kolyunov, V. A., 169
 Kondratyev, U. N., 329
 König, H., 481, 482, 483, 488, 495, 496
 König, L. A., 448, 458
 Konobeevsky, S. T., 280
 Konopinski, E. J., 66
 Konovalenko, B. M., 201
 Konzak, C. F., 596
 Kopfermann, H., 141
 Korolev, G. A., 171, 179
 Korshunov, I. A., 335
 Koski, W. S., 331, 350
 Kosyakov, V. N., 179, 178
 Koval'skii, G. A., 180
 Kramer, G. L., 200
 Kramers, H. A., 310
 Krantowsky, D., 481, 482, 483
 Kraus, K. A., 456, 457
 Krause, D. P., 169
 Krause, S., 347
 Krebs, K. H., 441, 442
 Kreiter, U. P., 340
 Krelick, R. W., 334
 Krishnamurty, K. V., 290, 291
 Kristensen, P., 172, 463
 Kroh, J., 592
 Kronmüller, H., 269
 Krummenacker, D., 475, 494, 496
 Kruse, U., 432
 Kruse, W., 294
 Kryzhanovskii, B. P., 175
 Kuehner, J. A., 205, 206
 Kuhn, W., 123
 Kukavadze, G. M., 165, 166, 175, 176
 Kumabe, I., 88, 102, 104, 110
 Kümmel, H. G., 458
 Kuperman, S., 68
 Kurath, D., 33
 Kuri, Z., 582, 583, 585, 586
 Kurita, Y., 581, 582, 584
 Kuroda, P. K., 494, 563
 Kursanov, D. N., 334
 Kurtz, A. D., 193
 Kuz'min, R. N., 180
 Kuznetsov, A. Ya., 175
 Kycia, T., 432

AUTHOR INDEX

L
 Labes, M. M., 340
 Lacoste, F., 16, 31
 Ladd, J. A., 204
 Lafont, R., 316
 Laidler, K. J., 314
 Lal., D., 476, 485, 490, 492
 Lalović, B., 210
 Lamar, E. S., 439
 Lamb, W. E., Jr., 126, 132, 133
 Lamm, O., 344
 Lamonic, A., 166
 Lampi, E., 175
 Land, E. I., 308
 Landau, L. D., 368, 373, 377, 378, 379, 410, 432, 550
 Lander, J. J., 191
 Landshoff, P. V., 432
 Lane, A. M., 83
 Lane, R. O., 166
 Lang, C., 439
 Lang, C. E., 343
 Lang, D. W., 83, 88, 108, 109, 112, 118
 Lang, G., 142, 149
 Lang, L. G., 149
 Lang, P. K. H., 229
 Langer, G., 169
 Langer, L. M., 158, 162, 166, 167, 175, 176
 Langevin, M., 149
 Langworthy, W. C., 340
 Lapp, R. E., 471
 Lardner, R. W., 432
 Lark-Horovitz, K., 190, 256
 Larsh, A. E., 206
 Larson, C. E., 459
 Larson, T. E., 331
 LaSalle, R. A., 207
 Lassen, N. O., 88, 99, 100, 104, 106, 107, 108, 110
 Lassila, K. E., 433
 Laubengayer, A. W., 336
 Laubenstein, M. J., 256
 Laurence, G. C., 230, 238
 Laurence, G. S., 291
 Lauterbuhr, P. C., 334
 Lawrence, G. P., 209
 Lax, M., 195
 Lazar, N. H., 166, 515
 Lazurkin, Yu. S., 350
 Leader, E., 433
 Leary, J. A., 344
 Le Couteur, K. J., 80, 88, 90, 118
 Lederer, M., 173
 Ledwith, A., 329
 Lee, B., 434
 Lee, J. K., 351
 Lee, L. L., Jr., 149
 Lee, M. R., 154
 Lee, T. D., 43, 45, 66
 Lee, W. G., 333
 Lee, Y. K., 148
 Lefort, M., 243
 Le Gallic, Y., 157
 Leger, P., 155, 156
 Lehmann, C., 264
 Lehmann, H., 425, 432
 Leibfried, G., 247, 251, 257, 258, 260, 264, 266, 278
 Leininger, R. F., 167
 Leiss, J. E., 37
 Lemmon, R. M., 351, 583
 Lendinara, L., 432
 Leonard, B. R., Jr., 221
 Le Roux, L. J., 344
 Lett, J. T., 583, 586
 Levich, V. G., 309
 Levine, N., 68, 69, 71
 Levine, S., 343
 Levinger, J. S., 12
 Levskii, L. K., 481, 482
 Levy, H. B., 458
 Levy, P. W., 268, 269
 Lewis, H. R., 68, 69
 Lewis, J., 343, 347
 Lewis, L. G., 463
 Lewis, R., 448, 450, 451, 462
 Lewis, R. R., Jr., 8
 Lewis, W. B., 239
 Lewis, L. K., 495, 496
 Libby, D., 580, 581, 585, 586, 587, 589
 Libby, W. F., 309, 320, 348
 Lichtblau, H., 445
 Lichtin, N. N., 343
 Lifofsky, L., 167
 Liebl, H., 450
 Lietz, G. P., 203
 Lietzke, M. H., 169
 Lifshits, I. M., 281
 Liliga, K., 581, 582
 Lillie, A. B., 173, 179
 Limber, D. N., 509
 Lin, S. R., 67
 Lin, W. C., 581, 582, 584
 Lind, D., 167
 Lind, S. C., 350
 Lindblom, R. O., 583
 Lindgren, I., 170
 Lindhard, J., 253
 Lindner, L., 351
 Lindner, M., 459
 Lindner, R., 456
 Lindqvist, T., 64
 Lindsay, W. F., 158, 212
 Lindsey, A. J., 170
 Lion, M. B., 592, 593, 594
 Lipkin, H. J., 68, 126, 127, 133, 144, 145
 Lipps, F. W., 54, 58
 Lishenko, L. G., 175, 177, 178, 179
 Litherland, A. E., 512
 Littlejohn, C., 137, 138, 139
 Littlejohn Herzenberg, C., 149
 Littlewood, A. B., 344
 Liu, N., 291
 Livingston, M., 179
 Livingston, R., 578, 580
 Lobell, G., 450, 451, 462
 Lobunez, W., 345
 Loferski, J. J., 256
 Löfroth, G., 583, 584, 585, 586, 588, 590
 Logonov, A. A., 434
 Lomaglio, G., 581, 582
 Long, A. O., 171
 Longmire, C., 54
 Longoni, A. M., 434
 Lounsbury, M., 252, 468
 Love, T. A., 209
 Lovelace, J., 434
 Lovering, J. F., 486
 Lovtsys, A. V., 480, 481
 Lovtsys, G. P., 480, 481
 Low, F. E., 368, 394, 402, 422, 433, 434
 Low, W., 149
 Lowenstein, A., 330
 Lucasson, P. G., 255, 256, 261
 Luebbe, R. H., Jr., 348
 Luhr, O., 439
 Lumry, R. W., 296
 Lundby, A., 62, 74
 Lundin, M. I., 236
 Lurié, D., 434
 Lushchikov, V. I., 149
 Lustig, H., 123, 140
 Lustig, M., 334
 Lustman, B., 280
 Lyashenko, N. Y., 230, 233
 Lynch, F. J., 148
 Lyon, W. S., 515
 M
 McCabe, L. J., 583
 McCarley, R. E., 344
 McConnell, H. M., 289, 293, 301, 315, 582, 583, 584, 585
 McCormack, J. D., 175, 180
 McCormick, G., 581, 584, 587
 McCormick, P. T., 9
 McCormick, R. D., 175, 180
 McCown, D. A., 459
 McCrea, J. M., 440, 453
 McCreary, W. J., 169, 171, 176
 McDonald, F. A., 433
 MacDonald, N., 82, 83, 91, 95, 96, 109, 119
 McDonell, W. R., 180
 McDonough, F. D., 170
 McDowell, C. A., 581, 582, 584

MacDowell, S. W., 432, 433
 McEwen, W. K., 340
 MacGregor, M. H., 100,
 166, 433, 515
 McGuire, A. D., 134, 149
 MacIntosh, J. M., 196, 201
 McIntyre, J. A., 16, 18
 McIntyre, J. D., 252
 McKay, H., 330
 MacKay, I. N., 230
 McKay, K. G., 189, 190,
 191, 195, 200, 214, 586
 McKenzie, J. M., 191, 193,
 194, 204, 208, 210, 214
 McKim, F. S., 198
 McKinley, W. A., 245
 McKinney, C. R., 440, 453
 Macklin, P. A., 167, 468,
 470
 Macklin, R. L., 468, 470,
 515
 McKnight, J. T., 340
 McLellan, A., 88
 McMaster, W. H., 55
 McMillan, E. M., 468
 McMillan, J. A., 592
 McMullen, C. G., 470, 471,
 472, 474
 McNair, A., 166
 Macnamara, J., 468, 472
 McNesby, J. R., 349
 McPherson, A. J., 158
 Macq, P. C., 62
 McVoy, K. W., 8, 74
 Maddock, A. G., 299, 339
 Madsen, B. S., 460
 Magee, J. L., 243
 Magnuson, G. D., 274, 277
 Magnusson, L. B., 462
 Maita, J. P., 194
 Makin, M. J., 271
 Makino, I., 450
 Makishima, S., 346
 Maletskos, C. J., 168
 Maling, J. E., 583
 Malott, W. M., 232
 Maltby, P., 569
 Managan, W. W., 212
 Mandelstam, S., 380, 382,
 383, 399, 401, 402, 404,
 408, 413, 414, 431, 432,
 433, 434
 Mann, H. M., 203, 210, 211,
 212
 Mann, W. B., 155
 Manning, G. K., 486
 Manning, W. M., 462, 463
 Manno, P. J., 348
 Marcazzan, G., 102, 117,
 209
 March, P. V., 102
 Marchuk, G. I., 230
 Marcus, R. A., 298, 309,
 310, 311, 313, 314, 317,
 318, 322, 331
 Marcus, R. J., 286, 309,
 310
 Margulies, S., 134, 135,
 137, 149
 Maringer, R. E., 486
 Marinov, A., 137, 149
 Marinov, M., 201
 Maris, T. A., 8
 Markau, K., 580, 581, 586
 Markby, R., 346
 Marquez, S., 206
 Marsh, B. B., 207
 Marshak, R. E., 547
 Marshall, J. H., 166
 Marshall, R. R., 456, 480,
 481
 Marshall, W. L., 335
 Martin, A., 432
 Martin, D. G., 268
 Martin, D. S., Jr., 344
 Martin, G., 351
 Martin, G. R., 486
 Mason, S. G., 163
 Massam, T., 62
 Massey, H. S. W., 45, 46,
 66, 70, 165
 Mastel, B., 260, 280
 Masters, B. J., 303, 304,
 330, 342, 347
 Matheson, M. S., 592
 Mathis, J., 533, 560
 Mathur, H. B., 173
 Matinyan, S. G., 548
 Matsuda, H., 447
 Mattauch, J., 445, 447, 448,
 458, 460
 Matthews, D. M., 305
 Matthews, J., 432
 Matthews, P. T., 432, 434
 Matthews, T., 567
 Matthies, P., 308
 Matumoto, F., 90
 Matveev, O. A., 201
 Maximon, L. C., 10
 Maybury, P. C., 331
 Mayer, J. W., 190, 193,
 194, 199, 200, 203, 208,
 212, 213
 Mayne, I., 488
 Mayne, K. I., 484
 Mazey, D. J., 272, 276, 277
 Meadows, J. W., 97, 98
 Mech, J. F., 462, 463, 468
 Medalia, A. I., 292
 Medyanik, V. N., 175, 177,
 178, 179
 Meek, D. W., 347
 Meiboom, S., 330
 Meier, D. J., 292, 303
 Meinke, W. W., 158, 171
 Melaika, E. A., 471
 Melander, L., 329
 Melin, O., 172, 464
 Melissinos, A. C., 141
 Melkonian, E., 209
 Melnick, A., 305
 Melton, S. L., 305
 Menichella, E., 99, 108, 110,
 112, 117, 118
 Menotti, P., 434
 Merinis, J., 166
 Merrihue, C. M., 475, 494,
 495, 496
 Merritt, J. S., 162
 Merritt, W. F., 158, 468
 Merz, E., 461, 468
 Merzari, F., 209
 Meshcheryakov, V., 434
 Messier, J., 190, 191, 212,
 214
 Metskhvarishvili, R. Ya.,
 169
 Metzger, F. R., 56, 124
 Meyer, A., 206
 Meyer, D. I., 179
 Meyer, E. G., 305
 Meyer, V., 108, 110, 116
 Meyer-Berkhout, U., 18,
 30, 31
 Meyer-Schützmeister, L.,
 137, 138, 149
 Michel, L., 68, 69
 Michelakis, A., 583
 Mickel, J. P., 306, 307
 Mickus, J., 291
 Mihelich, J. W., 169, 170
 Mikumo, T., 97, 114
 Milazzo, M., 117
 Mileikowsky, C., 448, 460
 Milgram, M., 253, 258, 260,
 261, 263, 265, 266, 272,
 274, 278
 Miller, C. E., Jr., 350
 Miller, D., 180
 Miller, G. L., 189-220;
 194, 195, 196, 200, 201,
 202, 203, 204, 206, 209,
 212
 Miller, J. J., 334, 341
 Miller, J. M., 115, 529
 Miller, P. T., 515
 Miller, S. C., 71
 Miller, S. I., 333
 Miller, V. B., 348
 Miller, W. F., 88
 Milligan, B., 343
 Mills, A. M., 229
 Mills, O., 336
 Mills, R., 338, 339
 Milsted, J., 163
 Minguzzi, A., 432
 Minkowski, R., 544, 545,
 566, 569
 Minter, F. J., 271
 Miskel, J., 456
 Mitchell, E. W. J., 267, 268
 Mitchell, J. J., 345
 Mitchell, R. F., 170
 Mittnacht, H., 335, 336, 337
 Miveloz, P., 168
 Miyagawa, I., 580, 581, 582,
 583, 584, 587, 589, 590
 Miyazawa, H., 432
 Mladjenovic, M., 165
 Moeller, T., 178
 Moffat, J. W., 433

AUTHOR INDEX

Moffatt, R. D., 162, 166, 175, 176
 Moffet, A., 569
 Mogford, I. M., 272
 Mohler, O. C., 541
 Molchanov, V. A., 276
 Moldovanov, V. P., 175
 Mollenauer, J. F., 98, 119, 206
 Möller, C., 69
 Momyer, F. F., 173
 Monahan, J. E., 175
 Moncaster, M., 201
 Monse, E. V., 330
 Montague, J. H., 207, 208, 209
 Moon, P. B., 123, 124, 143, 144, 147
 Mooring, F. P., 175
 Moravcsik, M. J., 433
 Moreau, J., 155, 156
 Moreland, P. E., 441
 Morgan, W. W., 538
 Morin, F. J., 194
 Morito, N., 450
 Morpurgo, G., 6
 Morris, M. M., 292, 300, 301
 Morrison, G. C., 209, 210
 Morrison, G. H., 456, 457
 Morrison, P., 547, 548
 Morrison, P. M., 565, 568
 Morton, J. R., 582, 584
 Morton, W. T., 102
 Mosen, A. W., 515
 Moser, H. C., 337
 Mössbauer, R. L., 123-52; 123, 125, 126, 131, 133, 134, 135, 149
 Mott, N. F., 45, 46, 66, 68, 70, 320
 Mottelson, B. R., 1, 2, 3, 4, 12, 92
 Moyer, B. J., 459
 Mozer, F. S., 458
 Muetterties, E. L., 338, 343
 Muggleton, A. H. F., 175, 176
 Muir, A. H., Jr., 131
 Mukerjee, S., 6
 Mukerji, A., 179
 Mullen, C. J., 14, 67, 70
 Mullen, R. T., 351
 Müller, A., 580, 581, 583, 585, 586, 587, 588, 589, 590, 592, 593, 595
 Müller, E. A., 535, 541
 Müller, E. W., 270, 276, 277
 Müller, N., 335
 Muller, R., 336, 337
 Müller-Warmuth, W., 448
 Munro, R., 451
 Murphy, J. F., 210
 Murray, R. B., 206, 209
 Murthy, V. R., 494, 496, 563, 564
 Musgrave, B., 351
 Mushkelishvili, N. I., 402, 403, 406, 433
 Muto, T., 6
 Myasoedov, B. F., 98
 Myatt, G., 229
 Myers, F. E., 45, 68
 Myers, H., 293, 294, 298, 323
 Myers, O., 289, 291, 296, 329, 330
 N
 Nagarajan, M. A., 6
 Nagle, D. E., 134, 135, 138, 139, 144, 149
 Nahon, S., 580, 581
 Nakajima, Y., 450
 Nakasima, R., 98, 107
 Nambu, Y., 377, 433, 434
 Nathan, O., 75, 460
 Navozhilov, A. I., 229
 Nawab, M. A., 163
 Nazarova, L. M., 335
 Neeb, R., 456
 Neiler, J. H., 191, 208, 209, 515
 Neill, W. J., 332
 Neiman, M. B., 348
 Nelson, D. F., 45, 68, 69
 Nelson, F., 456, 457
 Nelson, R. S., 254, 276, 278
 Nemetz, O. F., 174, 175, 176
 Neufeld, J., 243, 257, 258
 Neuman, G., 464
 Neuman, H. M., 292, 299, 300, 305
 Newby, G. A., 235
 Newton, A. S., 180
 Newton, T. D., 86, 109, 118
 Newton, T. W., 303
 Ngoc, N. H., 31, 39
 Nicholson, W. J., Jr., 97, 114, 118
 Nielsen, E., 180
 Nielsen, K. O., 172, 251
 Nielsen, O. B., 172, 465
 Nielsen, W. D., 340
 Nier, A. O., 438, 447, 450, 451, 456, 459, 461, 468, 470, 484, 486, 489
 Nikolaichuk, A. D., 175, 177, 178, 179
 Nishida, M., 507, 510, 512
 Nishina, Y., 44, 55, 57, 58
 Nobes, M., 175
 Nobles, R., 179
 Noda, T., 450
 Noel, J. P., 193
 Noggle, T. S., 260, 271, 280
 Norberg, R. E., 289
 Norby, H., 178
 Norman, A., 580, 581, 588
 Norris, L. D., 468
 Norris, T. H., 329, 342, 347
 Northrup, D. C., 191, 201
 Novakov, T., 165
 Novey, T. B., 75, 158
 Noyce, R. N., 197
 Noyes, H. P., 405, 406, 432, 433
 Noyes, R. M., 330, 339, 343, 344
 Noyes, W. A., Jr., 332
 O
 Oae, S., 334
 Obenshain, F. E., 137, 149
 O'Brien, B. J., 213
 Oehme, R., 432, 433, 434
 Oen, O. S., 251, 246
 Oeschger, H., 481, 483, 488
 Oeser, J., 6, 18, 32, 35, 36
 Ofer, S., 137, 149
 Ogard, A. E., 291, 294, 297
 Ogata, H., 104, 110
 Ogata, K., 447, 450
 Ogg, R. A., Jr., 332, 341
 Ohno, A., 334
 Ohyama, N., 512
 Okano, J., 450
 Oki, S., 104, 110
 Okkerse, B., 279
 O'un, L. B., 432
 O'cott, R. N., 229
 Olesen, M. C., 172
 Oliver, J. W., 213
 Olness, J. W., 205
 Olsen, C. E., 138
 Olsen, H., 10
 Olsen, L. O., 174
 Olson, R. M., 213
 Omnes, R., 402, 403, 404, 406, 433
 Onak, T. P., 345
 Onley, D. S., 8
 Ono, Y., 510
 Opower, H., 472
 Oppenheimer, J. R., 551
 Orgel, L. E., 299, 314, 323
 Orlova, A. A., 335
 Orman, C., 190
 Ormerod, M. G., 580, 581, 583, 585, 586, 587, 589
 Orr, W. C., 171
 Osetinskii, G. M., 157
 Osredkar, M., 228
 Ostanevich, Y. M., 149
 Osterbrock, D. E., 509, 534
 Oström, B., 172
 Ott, H., 126
 Otvos, J. W., 157
 Overstreet, R., 179
 Owen, G. E., 166
 Owen, P. H., 166
 Ozeroff, J., 281

P

Pachucki, C. F., 451
 Page, L. A., 43-78; 54, 58, 59, 60, 61, 64, 69, 70, 71, 73, 74, 75
 Pajaro, G., 337
 Pal, M. K., 6
 Palko, A. A., 335
 Palmer, W., 274, 277
 Paneth, F. A., 455, 456, 484
 Paneth, H., 266
 Panofsky, W. K. H., 18, 68
 Pantchevnikoff, J. I., 193
 Papp, G., 175
 Pappas, A. C., 172, 472
 Parchen, F. R., 302
 Parker, K., 83
 Parker, M. J., 471
 Parker, R., 512, 536, 538
 Parker, W., 157, 158, 160, 164, 165, 166, 167, 168, 169, 170, 176
 Parkinson, W. C., 191, 207
 Parmley, T. J., 459
 Parry, L. G., 486
 Parzen, G., 9
 Pashley, D. W., 273
 Pass, G., 344
 Passatore, G., 434
 Pasternack, S., 55
 Pasynskii, A. G., 583, 585, 586, 587, 588
 Pate, B. D., 155, 156, 158, 159, 165, 166
 Patro, A. P., 62
 Patskevich, V. M., 191
 Patt, H. M., 589
 Patten, F., 580, 581, 583, 587, 588, 589, 590
 Patterson, C., 461, 468, 475, 481, 562
 Patterson, C. C., 480, 481
 Pauli, R. T., 460
 Paxton, H. C., 240
 Peacock, R. N., 68, 69, 135
 Pearce, G. W., 347
 Pearson, A. D., 199
 Pearson, I. M., 348, 349
 Pearson, R. G., 286, 290, 292, 300, 301, 315, 316, 320, 343
 Pease, R. S., 243, 257, 258, 264, 268, 269
 Peaslee, D. C., 529
 Pehl, R. H., 207
 Pekár, D., 142
 Pell, E. M., 194
 Penna-Franca, E., 307
 Pepin, R. O., 475, 494, 495, 496
 Perez-Mendez, V., 173
 Perez y Jorba, J., 11, 31, 33, 39
 Perkins, G. D., 451, 455
 Perkins, H. K., 304

Perkins, J. F., 166, 167
 Perkins, M., 213, 214
 Perkins, M. H., 176
 Perlman, I., 167, 459
 Perlman, M. L., 166, 167
 Perlow, G. J., 137, 138, 139, 148
 Perrier, C., 167
 Perrot, M., 175
 Perry, R. R., 179
 Perryman, E. C., 239
 Peters, B., 476
 Peterson, G. A., 10, 11, 16, 22, 23, 25, 26, 27, 30, 31, 33
 Peterson, J. H., 158
 Peterson, R. E., 235
 Petrov, I. Ya., 350
 Petrov, V. I., 180
 Petrov, Yu. I., 175
 Petrova, A. A., 175
 Petruska, J. A., 471, 472
 Pettersson, B. G., 64
 Petzold, J., 126
 Phelps, C. G., 207
 Phil, A., 580, 581, 585, 586, 587, 588
 Phillips, G. C., 179
 Phillips, J. A., 175
 Phillips, M., 68
 Phillips, R., 170
 Phillips, W. D., 338
 Pichelin, V. A., 156
 Picou, J. L., 149
 Pidd, R. W., 45, 68, 69
 Pieper, G. F., 213
 Piette, L. H., 592
 Pihl, A., 580, 581, 585, 586, 587, 588, 589, 590
 Pinaev, V. S., 547
 Pine, J., 18, 40
 Pinson, W. H., Jr., 468, 479
 Pipkin, F. M., 166
 Pixley, R. E., 205, 206
 Plane, R. A., 307
 Planquart, J., 232
 Platzmann, R. L., 577
 Pochtarev, V. I., 175
 Podgoretskii, M. I., 132, 144
 Poffe, N., 466
 Pohlit, H., 581, 588
 Pohm, A. V., 162, 166, 175
 Polaczek, A., 348
 Polevoi, R. M., 156
 Polkinghorne, J. C., 432
 Polonsky, J., 583
 Pomeranchuk, I. Ia., 389, 398, 430, 431, 433, 434
 Ponomarev, A. A., 171, 175, 179
 Pontecorvo, B., 547, 549
 Pool, M. L., 459
 Pooley, D., 583
 Porat, D. I., 157
 Porter, C. E., 83

Porter, F. T., 173
 Porter, G., 308
 Potter, N. D., 347
 Potter, R. M., 153, 162, 163, 164, 167, 170, 171, 179, 180
 Poulsen, N. R., 178
 Pound, R. V., 135, 137, 141, 142
 Povelites, J. G., 153, 162, 163, 164, 167, 170, 171, 179, 180
 Powell, R. M., 468
 Power, W. H., 170
 Powers, E. L., 592, 593, 594, 595, 596
 Powers, J. P., 162, 166, 175
 Pratt, M. W. T., 344
 Pratt, R. H., 8, 14
 Pratt, T. H., 349
 Predazzi, E., 434
 Presland, A. E. B., 273
 Preston, R. S., 73, 137, 138, 139, 149
 Preston, W. M., 175, 176
 Prestwood, R. J., 306, 329, 330
 Preuss, L. E., 166, 167
 Price, H. C., Jr., 162, 166, 175, 176
 Price, P. B., 260, 273, 280
 Price, R., 532
 Price, R. E., 114
 Prior, A. C., 194
 Pritchard, D. E., 335
 Pritchard, H. O., 348
 Proca, G. A., 28, 31
 Prugne, P., 155, 156
 Pryce, M. H. L., 55
 Prydz, S., 580, 581, 585, 586, 587, 588
 Pryor, A. W., 267, 268
 Puppi, G., 370, 433
 Purser, K. H., 88, 102, 103, 104, 110
 Pyatt, K. D., 433
 Pyle, G. L., 462, 463, 468, 469

Q

Quidort, J., 149
 Quigley, D., 165
 Quinton, A. R., 104, 108, 114

R

Rabideau, S. W., 303, 304
 Rabinowitz, P., 99, 529
 Racah, G., 9, 141
 Raievski, V., 240
 Rajewsky, B., 581, 585, 586, 588, 590
 Rall, W., 437
 Rama, M., 476

AUTHOR INDEX

Ramavataram, K., 157
 Rameau, F., 456, 473
 Randolph, M. L., 581, 583, 585, 586, 587, 592, 593, 594, 595, 596, 597, 598
 Rankama, K., 476
 Ranneva, Yu. I., 340
 Rao, D. V. G. L. N., 582, 584, 587
 Rao, K. N., 343
 Rappaport, P., 256
 Rausch, W., 159
 Raymo, C. T., 200, 203
 Read, W. T., Jr., 195, 196, 197
 Reasbeck, P., 456, 484
 Reaves, G., 544
 Rebka, G. A., Jr., 135, 137, 141, 142
 Redding, G. B., 272, 276, 277
 Redhardt, A., 581, 585, 586, 588
 Redman, J. K., 278
 Reed, G. W., 482, 515
 Reeves, H., 512, 513, 514
 Reggie, T., 371, 384, 413, 424, 425, 426, 427, 428, 429, 430, 431, 434
 Reid, A. F., 338, 339
 Reif, L., 340
 Reiner, A. S., 6
 Reines, F., 549
 Reinov, N. M., 190
 Reiswig, R. R., 134, 149
 Rempel, R. C., 592
 Reuterswärd, C., 447
 Reutov, O. A., 335
 Revell, R. S. M., 155
 Rexroad, H. N., 581, 583, 584, 585, 588, 589, 590, 592
 Reynolds, F. L., 167, 351, 462
 Reynolds, H. L., 98
 Reynolds, J. H., 438, 450, 461, 468, 470, 471, 475, 494, 495, 496, 563
 Reynolds, J. T., 8
 Reynolds, W. L., 291, 296
 Ribnikar, S. V., 335
 Rice, P. J., 175
 Rich, R. L., 301, 302, 344
 Richards, H. T., 174
 Richards, J., 154
 Richards, P. I., 441
 Richardson, J. E., 179
 Rickborn, B., 333, 340
 Ridley, B. W., 69, 70
 Rigden, J. S., 331
 Rightmire, R. A., 468, 469
 Riley, D., 335
 Ringh, R., 172, 464, 465, 466
 Risser, J. R., 179
 Risset, J. C., 18, 38
 Rittenberg, D., 455
 Ritus, V. I., 548
 Robert, J., 240
 Roberts, J. H., 102, 103, 104
 Roberts, L. D., 190, 193, 213
 Roberts, T. R., 447
 Robinson, C. F., 451, 455
 Robinson, M. T., 251, 277
 Robl, H., 58
 Robson, J. M., 441
 Rodenberg, R., 4, 7, 14, 38, 40
 Rodgers, L. B., 165
 Rodin, A. M., 180
 Rodrigues, A. A., 179
 Roe, A., 343
 Rogers, L. B., 169
 Rogers, T. E., 306, 307
 Rogerson, J. B., 534
 Roig, E., 306
 Roig, J., 175
 Roizen, I. I., 144
 Rol, P. K., 276
 Rollefson, G. K., 348
 Romanov, V. A., 169
 Romanov, Yu. F., 163
 Rose, J. E., 343
 Rose, M. E., 58, 66
 Rosen, L., 102, 103, 104
 Rosenblum, E. J., 332
 Rosenblum, S. M., 465
 Rosenbluth, M. N., 23
 Ross, A. A., 118
 Rosseinsky, D. R., 290, 291, 307, 315, 319
 Rossi, A., 68, 69, 71
 Rothem, T., 68
 Rotter, J., 441, 442
 Rourke, F. M., 438, 439, 451
 Roux, G., 208
 Rowland, F. S., 349, 351
 Rowlands, J. R., 581, 582, 584
 Rowley, J. K., 291, 297
 Rowlinson, H. C., 344
 Roy Poulsen, N. O., 104
 Rubin, A. G., 88, 101, 102, 116
 Ruby, S. L., 127, 135
 Ruderman, M., 432
 Rudik, A. P., 432
 Rudloff, W., 442, 443
 Rudstam, G., 164, 485
 Ruedl, E., 260, 280
 Ruppel, H. M., 433
 Ruskov, T., 149
 Russell, L. N., 175
 Rutherford, E., 173, 507, 512, 557
 Ryde, H., 467
 Ryvkin, S. M., 190, 201

S

Saakyan, G. S., 551, 553

Sabine, T. M., 267, 268
 Sachs, M., 207
 Sadoroschnii, I. K., 481, 482
 Sadron, C., 583
 Sagane, R., 97, 114
 Sah, C. T., 197
 Saika, A., 330
 Saintesprit, R., 193
 Saito, K., 339
 Sakai, E., 210
 Sakashita, S., 510
 Salam, A., 432, 433
 Salpeter, E. E., 507, 511, 512, 513, 514, 551, 553, 560
 Salzman, F., 433
 Salzman, G., 396, 433
 Samailov, B. N., 149
 Sampson, J. B., 254
 Sand, H. J., 169
 Sandage, A. R., 535, 538, 567
 Sargent, W. L. W., 539, 540
 Sargesen, A. M., 292
 Sarma, N., 175, 176
 Sarrouy, J. L., 452, 466
 Saubestre, E. B., 177
 Sauermann, G., 450
 Saunier, N., 206
 Sauter, F., 55
 Savenkova, M. V., 157
 Sawyer, G. A., 166, 175, 176
 Sawyer, R., 434
 Saxena, M. C., 592, 593, 594, 596, 597
 Saxon, D. S., 82, 154
 Scanlon, W. W., 201
 Schaefer, V. J., 162
 Schaeffer, O. A., 350, 450, 473, 488, 489, 541
 Schaeffer, R., 332
 Scharff, M., 253
 Schatzman, E., 554, 556
 Schawlow, A. L., 578, 580
 Schiff, L. I., 1, 2, 4, 6, 8, 10
 Schiffer, J. P., 143, 149
 Schiller, P., 269
 Schlear, W. J., 191, 208
 Schmidlin, P., 488
 Schmidt, B., 583
 Schmidt, F. H., 75, 168
 Schmidt, G., 351
 Schmidt, M., 534, 560
 Schmied, H., 350
 Schmitt, H. W., 191, 208, 209
 Schmitt, R. A., 247, 251, 252, 515
 Schneider, 200
 Schnitzer, H., 433
 Schoen, A., 123, 140
 Schoenberg, M., 546
 Schönfeld, T., 456

Schopper, H., 64, 65, 74
 Schulte, J. W., 349
 Schumacher, E., 479
 Schupp, A. A., 68, 69
 Schütze, W., 441, 442
 Schuy, K. D., 437
 Schwager, J. E., 175
 Schwartz, C. L., 8, 9, 24
 Schwarz, L. L., 304
 Schwarzschild, A., 71
 Schwarzschild, M., 509, 510, 532
 Schweinler, H. C., 191, 246
 Schweitzer, G. K., 167
 Schwinger, J., 11
 Scolnick, M., 205
 Scott, B. F., 167
 Scott, D. G., 165
 Scott, G. D., 158, 176
 Scott, M. B., 18
 Scott, N. W., 175
 Scott, P. A., 340
 Scraton, G. R., 432
 Seaborg, G. T., 167, 170, 171, 462, 463
 Searle, L., 539, 542
 Sebe, T., 6
 Sebera, D. K., 295
 Secor, H. V., 341
 Sedlet, J., 462
 Seeger, A., 265, 269
 Seeger, P. A., 90, 458
 Segel, R. E., 205, 206
 Segnan, R., 149
 Segrè, E., 167
 Seidlitz, L., 179
 Seith, W., 167
 Seitz, F., 243, 245, 247, 254, 257, 258, 266
 Seliger, H. H., 155
 Selleri, F., 433
 Sellers, P. A., 462, 468
 Semeille, C., 206
 Sennett, R. S., 158
 Serber, R., 551
 Servant, R., 580, 581, 587
 Setkina, V. N., 334
 Sevier, K., Jr., 157, 158, 160, 164, 165, 166, 167, 168, 169, 170
 Shakespeare, W., 352
 Shaknov, I., 56
 Shalaeva, O. E., 175, 177, 178, 179
 Shapiro, F. L., 127, 149
 Shapiro, I., 331, 334, 345
 Shapiro, M. M., 83, 107
 Sharp, R., 515
 Sharp, R. A., 247
 Shatenshtein, A. I., 334, 340
 Shats, M. M., 480, 481
 Shavitt, I., 330
 Shaw, A. E., 437
 Shaw, E. N., 157
 Shearin, P. E., 275
 Shedlovsky, J. P., 456
 Sheffield, J. C., 451
 Sheft, I., 346
 Sheldon, J. C., 347
 Sheline, R. K., 336, 338
 Sheng, P. K., 583, 585, 586, 587, 588
 Sheppard, J. C., 287, 289, 291, 296
 Sherman, N., 67
 Sherr, R., 83, 99, 106, 108, 109, 110
 Sherrill, F. A., 279
 Sherwin, C. W., 143, 165, 166
 Shida, S., 582, 583, 585, 586
 Shields, H., 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 592
 Shikhov, S. B., 229
 Shima, M., 531
 Shin, B. K. C., 344
 Shirkov, D. V., 432, 434
 Shirley, D. A., 134, 142, 149
 Shklovsky, I. S., 571
 Shockley, W., 191, 195, 196, 197
 Shull, C. G., 45, 68
 Shull, F. B., 448
 Shulman, R. G., 583
 Siddall, E., 238
 Sidorov, V. A., 88, 99, 100, 104, 106, 107, 108, 110, 116, 118
 Siegbahn, K., 168, 439, 440, 448
 Siege, S., 592
 Sigler, P. B., 303, 330
 Signer, P., 456, 461, 468, 484, 486, 488, 489, 494
 Sikkeland, T., 206
 Silcox, J., 271
 Silin, I. N., 433
 Silk, E. D. H., 260, 280
 Silman, H., 165
 Silsbee, R. H., 258, 263, 276
 Silva, R. J., 191, 208, 209
 Silver, E. G., 229, 230
 Silverman, J., 291
 Simmons, J. A., 580, 581
 Simms, P. C., 68, 148
 Simpson, D. J., 292
 Simpson, O., 201
 Sims, G. A., 252, 280, 281
 Singwi, K. S., 126, 132
 Sjölander, A., 126, 132
 Skilbreid, O., 172, 465
 Sklyarevskii, V. V., 149
 Skolnik, S., 592
 Släitis, H., 164, 168
 Slay, J. E., 448
 Sleeper, H. P., Jr., 235
 Smaller, B., 592, 593, 594, 595, 596
 Smetannikova, Yu. S., 201
 Smirnov, L. S., 191
 Smith, B. C., 336
 Smith, B. W., 468, 472
 Smith, C. S., 174
 Smith, D. B., 158
 Smith, D. E., 577-602
 Smith, H. A., 345
 Smith, H. L., 99, 462, 463
 Smith, J. H., 8
 Smith, K. F., 439
 Smith, L. G., 440, 441
 Smith, L. M., 439, 452
 Smith, M. F., 229
 Smith, M. L., 439, 452, 460, 464
 Smith, R. A., 191
 Smith, R. B., 273
 Smith, R. K., 99
 Smith, S., 343
 Smith, V. N., 157
 Smith, W. G., 166, 169
 Smith, W. V., 578, 580
 Smits, F., 438
 Smorodinsky, J., 549
 Smulkowski, O., 193, 199, 204, 206
 Smythe, W. R., 461
 Sneddon, I. N., 320
 Snyder, H. S., 55, 141
 Snyder, W. S., 243, 257, 258
 Sobolak, E., 74
 Sobolev, Yu. P., 170, 178
 Soborovich, E. V., 480, 481
 Sokolov, I. A., 190
 Sokolov, N. N., 433
 Sokurskii, Yu. W., 243
 Solodovnikov, S. P., 348
 Sommerfield, C. M., 432
 Sona, A. M., 102
 Sorokina, A. V., 163
 Sosin, A., 256, 270, 271, 273, 275
 Southern, A. L., 277
 Sowerby, D. B., 343, 347
 Sparrman, B., 592, 593, 594, 595, 596, 597
 Spatz, W. B. D., 515
 Spearman, T. D., 434
 Spence, D. H., 583
 Spence, R. W., 462, 463
 Spencer, L. V., 67
 Spighel, M., 149
 Spindel, W., 330
 Spinks, J. W. T., 592
 Spitsyn, V. I., 346
 Sprengel, E. L., 205
 Spurny, Z., 349
 Srinivasan, R., 332
 Srivastava, G. N., 165
 Stabler, R. C., 547, 548
 Stahl, R. H., 235
 Stanek, F. W., 149
 Stanghellini, A., 390, 433, 434
 Stanley, E. J., 532

Stapp, H. P., 432, 433
 Starik, I. E., 480, 481
 Statz, H., 198
 Stauffer, H., 481, 482, 484, 485, 486, 496
 Stead, J. B., 290, 291, 307, 315, 319
 Stech, B., 66, 75
 Steenberg, N. R., 44
 Steenland, M. J., 63
 Steffen, R. M., 64, 68
 Stehle, P., 70
 Steigler, J. D., 280, 280
 Steigman, J., 168
 Steinberg, E. P., 472
 Steinberg, R., 210
 Steinwedel, H., 126, 128
 Stepanenko, V. A., 174, 175, 176
 Stepanov, A. V., 132
 Stepanov, E. P., 149
 Stephens, F., Jr., 167
 Stephenson, R., 228
 Sternberg, H. W., 346
 Stevens, C. M., 450, 451, 462, 468, 471, 494
 Stevens, C. S., 462, 463
 Stewart, B. B., 345
 Stewart, L., 102
 Stockendal, R., 165, 465
 Stöckmann, F., 201
 Stoddard, C. T. H., 344
 Stoenner, R. W., 481, 488
 Stoker, P. H., 166
 Stone, R. S., 235
 Stone, Y. H., 543
 Storey, R. S., 88, 99, 108
 Storey, W. H., Jr., 583, 586, 590
 Stout, P. R., 179
 Stovall, E. J., Jr., 175
 Strain, H. H., 334
 Strait, E. N., 102, 103, 104
 Stranks, D. R., 286, 287, 292, 297, 299, 300, 311, 329
 Strassmann, F., 169, 460
 Stratton, T. F., 179, 180
 Stratton, W. R., 236
 Street, K., Jr., 462
 Streitwieser, A., Jr., 340
 Strelkov, A. V., 149
 Stroffolini, R., 434
 Strohmaier, K., 160
 Strohmeier, W., 335, 336, 337
 Strom, P., 164
 Strong, J., 158, 164, 165
 Stroot, J. P., 62
 Strutinski, V. M., 82, 83, 91, 93, 95
 Struve, O., 540
 Stuart, R. V., 179, 180
 Studier, M. H., 462, 463, 468
 Sudershan, E. G., 547
 Sudgen, T. M., 439
 Süss, H., 476
 Suffredini, C. S., 251, 252
 Sugawara, M., 434
 Sugimoto, D., 510
 Sullivan, J. C., 303, 304
 Sullivan, J. H., 332
 Sun, C. R., 212
 Sunderman, D. N., 171
 Sunyar, A. W., 61, 62, 63, 74, 75, 137, 138, 142, 149
 Sutcliffe, L. H., 329
 Sutin, N., 285-328; 291, 292, 296, 297, 298, 299, 307, 320, 322
 Suphén, W. T., 332
 Sutter, J. R., 342
 Suzor, F., 158
 Svartholm, N., 439, 440, 448
 Svedberg, J., 465, 466
 Svelto, V., 203
 Swain, C. G., 340
 Swallow, A. J., 243
 Swan, J. B., 137, 138, 149
 Swart, E. R., 344
 Swartout, J. A., 459
 Sweet, A., 335
 Swenson, W., 106, 107
 Sykes, A. G., 290, 291, 307, 308, 315, 318, 319
 Symanzik, K., 432
 Syrovatsky, S. I., 565, 566, 567, 568
 Szent-Györgyi, A., 583

T

Tabau, R. L., 342
 Tagaki, W., 334
 Takaki, R., 213
 Takeda, G., 434
 Takekoshi, E., 104, 110
 Talanov, A. N., 340
 Talmi, I., 6, 15, 31, 36
 Tal'Roze, V. L., 441
 Tamburino, A. L., 61
 Tamers, M. A., 98
 Tamura, M., 339
 Tanaka, S., 97, 114
 Tanatarov, L. V., 281
 Tanner, N. W., 514
 Tantsyrev, G. D., 441
 Tarrant, J. R., 208
 Tarski, J., 432
 Tasman, H. A., 448
 Tassie, L. J., 6
 Taube, H., 286, 291, 293, 294, 295, 297, 298, 301, 302, 323, 332, 344
 Tavkhelidze, A. N., 434
 Taylor, J. C., 432
 Taylor, J. G., 433
 Taylor, J. G. V., 162
 Taylor, R. D., 135, 138, 139, 144
 Taylor, R. E., 16, 27, 30, 37
 Taylor, T. I., 330
 Taylor, W. E., 175
 Telegdi, V. L., 68, 69
 Tel'kovskii, V. G., 276
 Temmer, G. M., 1, 75
 Terande, J., 450, 451, 462
 Ter-Pogossian, M., 173
 Terrani, S., 168
 Thenard, M., 157
 Thie, J. A., 14
 Thieberger, P., 467
 Thiele, W. M., 458
 Thiemann, A., 351
 Thirring, W., 432
 Thode, H. G., 338, 468, 470, 471, 472, 474
 Thomas, D. A., 166, 167, 169
 Thomas, M. R., 334
 Thomas, T. D., 83, 200, 202, 209
 Thompson, D. O., 278
 Thompson, M. W., 254, 276, 278
 Thompson, S. G., 173, 462, 463
 Thompson, S. O., 350
 Thomson, D. B., 110
 Thomson, J. F., 589
 Thonemann, P. C., 439
 Thorpe, F. G., 339
 Thulin, S., 172, 439, 440, 460, 465
 Tilles, D., 496
 Tilton, G. R., 468, 476, 562
 Tipper, C. F., 329
 Tishchenko, B. I., 6
 Titov, V. F., 179
 Todd, J. E., 331
 Tödt, F., 170
 Tolhoek, H. A., 43, 44, 45, 46, 54, 58, 63, 66, 68, 69
 Tolman, L. F., 441
 Tomlinson, R. H., 468, 471, 472
 Tompkins, P. C., 171
 Tonin, M., 432, 433, 434
 Tonolini, F., 117
 Tonolini, Z., 209
 Touma, A., 335
 Tove, P. A., 195
 Townes, C. H., 578, 580
 Trainor, L. E. H., 85
 Trambarulo, R. F., 578, 580
 Trammel, G. T., 126, 144, 147
 Travag, G., 535, 537
 Treacy, P. B., 179
 Treffenberg, L., 507
 Treiman, S. B., 432, 434
 Trotman-Dickinson, A. F., 348
 Truby, F. K., 583, 586, 590
 Trumphy, G., 61

Tsilosani, N. N., 548
 Tsuda, H., 512
 Tsuneoka, Y., 104, 110
 Tsvetkova, E. V., 175
 Tsvykanov, V. A., 230, 233
 Tuck, D. G., 162
 Tuck, J. L., 175
 Tudge, A. P., 338
 Turchinets, W., 114
 Turkevich, A., 482, 515
 Turner, J. F., 69, 70
 Turton, C. N., 349
 Tuzzolino, A., 213, 214
 Tyree, S. Y., 347
 Tzara, C., 144, 146
 Tzu, H. Y., 434

U

Überall, H., 74
 Udgaonkar, B. M., 434
 Uebersfeld, J., 578, 580, 581, 582, 583
 Ueda, H., 582, 583, 585, 586
 Uglava, E. V., 335
 Uhlenbeck, G. E., 45
 Uhler, J., 172, 464, 467
 Uhler, S., 172
 Umemoto, S., 496
 Upton, J., 532
 Urch, D., 351
 Uretsky, J. L., 433, 434
 Urey, H. C., 440, 453, 456, 476, 564

V

Vaidya, M. S., 292
 Valadares, M., 465
 Valentin, F., 207
 Valin, J., 191, 191, 212
 van Artsdal, E. R., 346
 Van Cleve, A., 170
 van den Bergh, S., 544
 Vandembosch, R., 88, 119, 209
 Vander Velde, J. C., 191, 212
 Van de Vijver, R. E., 15
 Van De Vorst, A., 583, 585, 586
 Van Doug, N., 200
 Van Heerden, P. J., 189, 201
 van Horn, J. R., 471
 Van Hove, L., 8
 Vanhuyse, V. J., 15, 19
 Van Lint, V. A. J., 251, 252
 van Ments, M., 452
 Van Patter, D. M., 175
 Van Putten, J. D., 191, 212
 van Raaphorst, J. G., 351
 Van Sickle, D. E., 340
 Varshavskii, Ya. M., 350
 Vasil'ev, G. Ya., 350

Vavilov, V. S., 190, 191
 Verdumen, E. A. Th., 346
 Viehbock, F. P., 276
 Vigne, J. P., 342
 Vilcek, E., 489
 Vincent, D. H., 137, 138, 139, 149
 Vineyard, G. H., 243, 246, 253, 257, 258, 260, 261, 263, 265, 266, 272, 274, 278
 Vinogradov, M. I., 164, 165
 Vise, J. B., 71
 Vischer, W. M., 6, 126, 133, 135, 138, 139
 Vitale, B., 432, 433
 Volger, H. C., 339
 Volkoff, G. M., 551
 von Eötvös, R., 142
 Von Goeler, E., 68, 69
 von Issendorff, H., 69
 von Weiszäcker, C. F., 11, 507
 Vorob'ev, E. D., 230, 233
 Vorres, K. S., 292, 317
 Voshage, H., 439, 448, 450, 454, 456, 461, 468, 484, 485, 489, 490, 491, 492
 Vozysheva, L. V., 583
 Vuccino, S., 156
 Vul, B. M., 190

W

Wachsmuth, H., 448
 Waddell, R. C., Jr., 162, 166, 175
 Waik, M., 90
 Waggoner, M. A., 172
 Wagner, F., 166
 Wagner, F. E., 149
 Wagner, H., 443, 445
 Wahl, A. C., 171, 287, 289, 290, 291, 292, 296, 298, 299, 305, 306, 456
 Wahlig, M. A., 157
 Waind, G. M., 306, 307
 Waissberg, S. E., 330
 Wakano, M., 549, 551
 Wakefield, J., 212
 Walcher, W., 439, 452, 460, 464
 Wald, M., 270
 Waldron, J. D., 437, 451
 Walecka, J. D., 6, 8, 14, 434
 Walker, H., 471
 Walker, L. R., 142
 Walker, R. M., 246, 255, 256, 260, 261, 273, 274, 280
 Walker, W. H., 470, 471
 Wall, N. S., 180
 Waller, I., 129
 Wallerstein, G., 536, 537, 538, 540, 543
 Walling, E., 460

Walsh, W. M., Jr., 583
 Walter, F. J., 190, 191, 193, 208, 213
 Wang, L., 212
 Wänke, H., 456, 481, 482, 483, 484, 486, 488, 489, 492, 495, 496
 Wanless, R. K., 472
 Wapstra, A. H., 64, 458
 Ward, A., 88, 99, 108
 Ward, J. B., 275
 Ward, J. C., 55
 Ward, R. B., 583
 Ward, R. L., 288, 308
 Ward, T. J., 170
 Warhanek, H., 209
 Warminsky, R., 200, 201
 Warshaw, S. D., 175
 Warshawski, J. A., 330
 Wasserburg, G. J., 456, 493, 563
 Watson, K. M., 8
 Waugh, J. B. S., 193
 Waugh, J. S., 338
 Wear, J. O., 305
 Weaver, H. E., 389, 301, 592
 Webb, A. N., 345
 Webb, P. P., 193, 199, 200, 206
 Webb, R. B., 592, 593, 594, 595, 596
 Weber, T. A., 67
 Wedepohl, P. T., 267, 268
 Wegener, H., 69
 Wegener, H. H. F., 137, 149
 Wegner, H., 206, 207
 Wegner, H. E., 106, 107, 191, 208, 209
 Wehner, G. K., 165, 276, 277
 Weigold, E., 115
 Weinberg, A. M., 221-42; 235
 Weinberg, S., 433, 549
 Weinreb, S., 533
 Weinstein, A., 180
 Weiss, E., 336
 Weiss, H. G., 331, 345
 Weiss, J., 314
 Weiss, R. J., 267
 Weiss, W. L., 207
 Weisskopf, V. F., 12, 29, 80, 83, 84
 Weissman, S. I., 288, 289, 308, 330, 334
 Weizer, V. G., 265, 266
 Wende, H., 448
 Wender, I., 346
 Wertheim, G. K., 137, 138, 139, 140, 142, 200
 Wertz, J., 578, 580
 West, G., 235
 West, H. I., 212
 Westheimer, F., 330
 Weston, G. J., 292

AUTHOR INDEX

Westrum, E. F., Jr., 468, 469
 Wetherill, G. W., 468, 469, 472, 476
 Wethington, J. A., Jr., 348
 Wexler, S., 350
 Weygand, F., 329
 Whapham, A. D., 271
 Wheatley, G. H., 200, 213
 Wheatley, J. C., 63
 Wheeler, J. A., 55, 518, 549, 551
 Whiffen, D. H., 581, 582, 583, 584, 585
 White, F. A., 438, 439, 441, 451
 White, R. A., 521, 567
 White, R. H., 236
 White, R. M., 351
 Whitehead, A. B., 143, 193, 199, 200, 204, 205, 207, 208, 209
 Whitham, B. T., 456
 Wichman, E. H., 432
 Wick, G. C., 14, 141
 Wiedemann, W. H., 131, 135, 149
 Wiedenbeck, M. L., 166
 Wiedermann, M., 171
 Wiedling, T., 18, 38, 40
 Wiesboeck, R., 340
 Wiggins, J. S., 200, 208
 Wightman, A. S., 432
 Wigner, E. P., 235, 407, 417, 422, 427
 Wilcox, R. M., 71
 Wildhack, W., 555
 Wiles, D. M., 468
 Wiles, D. R., 306, 468, 472
 Wilkins, R. G., 329, 330
 Wilkinson, D. H., 54, 61, 97, 205
 Wilkinson, F., 349
 Willard, H. B., 69
 Willard, J. E., 171, 348, 351
 Willey, R. S., 6
 Williams, D., 468, 470, 583
 Williams, E. J., 11
 Williams, H. J., 583
 Williams, J. A., 543
 Williams, L. L., 292, 296
 Williams, M. J. G., 330
 Williams, R. E., 334, 345
 Williams, R. L., 193, 199, 200, 206
 Williamson, R. M., 175
 Willis, W. R., 277
 Wilmarth, W. K., 299
 Wilson, E. J., 456
 Wilson, H. W., 166, 451
 Wilson, K., 434
 Wilson, O. C., 538
 Wilson, R., 18, 38
 Wilzbach, K. E., 349, 351
 Wimett, T. F., 235, 236
 Windle, J. J., 581
 Wing, J., 471
 Winogradov, A. P., 481, 482
 Winsberg, L., 88
 Winstein, S., 343
 Winther, A., 1, 2, 3, 4, 12, 66
 Withnell, R., 174, 175, 177, 178, 181
 Wittels, M. C., 279
 Wlotzka, F., 495, 496
 Wojcicki, A., 336, 337
 Wolfe, B., 227
 Wolfe, J., 448, 450, 451, 462
 Wolfenstein, L., 43, 82, 90
 Wolfgang, R., 98, 349, 351
 Wolfgang, R. L., 302
 Wolfstrom, M. L., 583
 Wolfsberg, M., 320, 322, 330
 Wolfson, J. L., 158, 166
 Woltjer, L., 566, 567
 Wong, C., 110
 Wong, D. Y., 405, 406, 433, 434
 Wood, D. P., 236
 Woods, M. J. M., 291
 Woods, R. D., 82
 Woodward, L. L., 459
 Woodward, W. M., 70
 Woolcock, W. S., 434
 Woolston, J. R., 454
 Woytowich, W., 174, 175
 Wright, H. W., 213
 Wright, J. P., 583
 Wu, C. S., 43, 45, 56, 71, 138, 148, 167
 Wu-Kuang, Y., 149
 Wüster, H. O., 55
 Wyller, A. A., 543

Y

Yaffe, L., 153-88; 155, 156, 158, 159, 165, 166, 167
 Yagi, M., 97, 114
 Yakolev, G. N., 170, 178
 Yakovleva, E. A., 340
 Yakunin, M. I., 163

Yamada, M., 90
 Yang, C. N., 43, 45, 53, 66
 Yang, K., 350
 Yasaitis, E. L., 592
 Yavorsky, P. M., 349
 Yearian, M., 6, 18, 32, 35, 36
 Yee, R., 193
 Yen, W. M., 289, 291, 295
 Yennie, D. R., 11, 97
 Yoneda, Y., 346
 Yoshida, M., 261
 Yount, D., 18
 Yuan, L. C. L., 212
 Yurygina, E. N., 340
 Yuster, P., 468, 470

Z

Zachariasen, F., 428, 433, 434
 Zaffarano, D. J., 166
 Zähringer, J., 438, 450, 456, 473, 481, 482, 483, 484, 488, 494, 495, 496, 541
 Zappa, L., 168
 Zavoisky, E., 577
 Zdanovich, V. S., 340
 Zebergs, V., 540
 Zechmeister, L., 285
 Zel'dovich, I. B., 553, 555
 Zeleny, J., 163
 Zener, C., 310
 Zhuravleva, V. G., 165, 166, 175, 176
 Zielen, A. J., 303
 Ziembka, F. P., 203, 212, 213
 Zimelev, A. G., 180
 Zimmer, K. G., 580, 581, 583, 585, 586, 590, 592, 593, 594, 595, 596, 597, 598
 Zimmerman, B. A., 515, 516, 517, 563
 Zimmerman, P. A., 178
 Zimmerman, W., 432
 Zucker, A., 98
 Zumwalt, L., 515
 Zupancic, C., 206, 460
 Zvonarev, A. V., 167, 176
 Zwanziger, D., 434
 Zwickel, A. M., 293, 294, 297
 Zwicky, F., 544, 546, 551, 567
 Zwolinski, B. J., 286, 309, 310

SUBJECT INDEX

A

Absorption of alpha and beta rays
for measuring fiber thickness, 157, 158
Abundance slope method for half-life determination, 467
Actinide elements electron exchange reactions, 303-5, 317, 318
Adiabatic electron exchange reactions, 311
Age determinations for meteorites, 477-82
Age determinations using radioactive nuclei, 477-82, 557-65
Age of the elements in the solar system, 557-62
Age of the solar system, 562-65
Alpha-particle spectroscopy with semiconductor particle detectors, 207, 208
Alpha process in element synthesis, 508, 512, 513
Aluminum oxide thin films, 160, 161
Amino acid irradiation free radical production, 580-82
Analytic properties of scattering amplitudes, 368, 399-401
Analyticity and unitarity general considerations on combined use, 399-401
Angular distributions in the statistical model, 90-95, 102-5
Anomalous thresholds and Landau-Cutkosky rules, 373-80
Antimony(III)-antimony(V) electron exchange reaction, 305, 306
Astrophysical applications of nuclear physics, 507-76
Atomic displacements in solids by nuclear radiation, 243-84
Atomic displacements point defect observa-

B

Beta-decay branching ratios by mass-spectroscopic technique, 474, 475
Beta-decay processes under extreme conditions of density and temperature, 555-57
Beta-ray polarization measurements, 43-78
Beta spectroscopy using semiconductor particle detectors, 210-12
Biological damage and radical production correlations, 596-98
Bridging mechanisms in electron exchange reactions, 322-24

C

Carbohydrate irradiation free radical production, 582, 583
Carbon burning and oxygen burning in element synthesis, 512, 513
Charge collection in semiconductor particle detectors, 194-96
Charge-sensitive preamplifiers for semiconductor particle detectors, 201-3
Charge and spin introduction into dispersion theory, 384-88
Chemical kinetics studies using isotope exchange reactions, 329-58
Chromium group electron exchange reactions, 291, 293-95, 315, 316
Circular polarization of gamma rays analysis by Compton scattering, 57-66
Cobalt group electron exchange reactions, 292, 299, 300, 315
Coherence problems in recoilless scattering, 143-47

Coincidence experiments in inelastic electron scattering, 19-21

Coincidence studies in compound nuclear reactions, 112, 113
Composition of stars observational results, 533-44

Compound nucleus statistical model of, 79-122

Compound statistical features in nuclear reactions, 79-122

Compton scattering as an analyzer for circular polarization of gamma rays, 57-66
Compton scattering as an analyzer for plane polarization of gamma rays, 55-57

Contact plate method for half-life determination, 467

Containment systems for research reactors, 238

Continuous inelastic electron spectrum, 9-11

Copper group electron exchange reactions, 301, 302

Cosmic ray-induced reactions in meteorites, 482, 483-92
Cosmic ray irradiation ages for meteorites, 487-92

Cross-section calculations for inelastic electron scattering, 2-14

Cross-section determinations by mass-spectroscopic measurements, 470-74

D

Daughter-growth method for half-life determinations, 467-69

Debye-Waller factor for recoilless gamma transitions, 129-33, 145-47

Defect production experimental observation, 267-81

predicted by theory, 263-67
 in solids by radiation, 247-67
 Depletion layer
 in a semiconductor particle detector, 191-97
 Detection of electron and photon polarization
 general considerations, 51
 Detectors
 semiconductor particle, 189-220
 Deuteron
 inelastic electron scattering, 21-25
 Diffraction scattering
 in dispersion theory, 428-31
 Diode structure
 of semiconductor particle detectors, 191-94
 Direct current amplifier ion detection
 for mass spectroscopy, 440
 Dispersion relation methods
 in strong interactions, 359-434
 Dispersion relations
 introduction of charge and spin, 384-88
 Dispersion theory
 applied to low-energy nucleon-nucleon scattering, 404-6
 elementary applications, 388-99
 Regge pole approach, 424-31
 Displacement production calculations, 256-63
 Displacement threshold energy, 254-56
 Double-focusing mass spectrometers, 446-48

E

Elastic polology, 391-94
 Electric multipole transitions in inelastic electron scattering, 3-5, 12, 13, 34-37
 Electrodeposition techniques
 for thin source preparation, 165, 167-72
 Electrodeposition techniques

for thin target preparation, 176-79
 Electrodisintegration of the deuteron, 21-25
 Electrodisintegration experiments, 14, 18-25, 38-40
 Electromagnetic form factor of the pion, 406-8
 Electromagnetic separator for thin target preparation, 180
 Electron exchange reactions, 285-328
 experimental methods, 286-89
 involving nuclear tunneling, 320-22
 in the nontransition elements, 305-8, 317-20
 in organic systems, 308, 318, 319
 in the transition elements, 289-305
 theoretical analysis, 308
 Electron exchange reaction theory
 comparisons with experimental data, 314-20

Electronics
 for semiconductor particle detectors, 201-3
 Electron impact ion sources for mass spectroscopy, 437, 438
 Electron multiplier ion detection for mass spectroscopy, 440-42
 Electron polarization general considerations, 46-50
 Electron polarization analysis by Mott scattering, 66-68
 Electron polarization measurements, 43-78
 Electron and positron polarization, 46-50, 66-76
 Electron scattering excitation of discrete nuclear energy levels, 25-37
 inelastic, 1-42
 Electron spin resonance spectroscopic analysis of free radical production in biological systems, 577-602
 Electron spin resonance techniques for electron exchange reaction studies, 288, 289
 Electrospraying for preparation of thin sources, 163, 164
 Element synthesis, 507-33, 557-65
 Energy migration in free radical formation in biochemicals, 587-90
 Energy migration in free radical production in irradiated organisms, 595
 Equilibrium method for half-life determination, 469-70
 Equilibrium process in element synthesis, 508, 517, 518
 ESR spectrometers for free radical production analysis, 577-80
 Evaporation probability in the statistical model, 81, 82, 84-88, 95, 96, 108-12, 117-20
 Evaporation of solutions or suspensions for preparation of thin sources, 161-63
 Excitation of discrete nuclear energy levels in electron scattering, 25-37
 Excitation functions and yields in the statistical model, 88-90, 97-102
 Experimental methods in inelastic electron scattering, 14-21
 Experiments on safety of research reactors, 238, 239
 Extinct radioactive nuclides in meteorites, 492-94

F

Film thickness estimation methods, 157, 158
 Fission yields by mass-spectroscopic techniques, 471, 472, 474
 Fission studies using the semiconductor particle detector, 208, 209
 Focusing collisions in production of atomic atomic displacements, 276-79
 Formvar films, 154

Forward dispersion relations, 388-91

Free radicals in irradiated biochemicals 580-92 in irradiated biological materials and systems, 577-602 in irradiated tissues and cell components, 592-98

Free radical stability in biochemicals, 584-86 in irradiated organisms, 593, 594

Frequency distribution of the transmitted radiation observed in the Mössbauer effect, 147, 148

Fuel element technology for research reactors, 224-26

G

Gamma line shape for zero phonon transitions, 132, 133

Gamma-ray polarization general considerations, 46-49

Gamma-ray polarization analysis by Compton transmission method, 61-63 by differential Compton method, 63-66

Gamma-ray polarization measurements, 43-78

Gamma-ray polarization measurement techniques, 54-66

Gamma-ray scattering recoilless, 123-52

Gamma-ray spectroscopy using semiconductor particle detectors, 212

Gas-retention ages for meteorites, 481, 483

Gravimetric measurement of thin film thickness, 157

Gravitational effect on photons, 142, 143

H

Half-life determinations by mass spectroscopic techniques, 467-70

Heavy-ion studies of the statistical model, 114

Helium burning in element synthesis, 508, 511, 512

High-density matter, 550-57

High-energy diffraction scattering in dispersion theory, 428-31

High-energy elastic scattering in the Mandelstam representation, 412, 413

High-energy nuclear astrophysics, 565-71

High-energy scattering in dispersion theory, 412, 413, 424-31

High-frequency spark ion sources for mass spectroscopy, 433

High-sensitivity mass spectroscopy, 435-506

Homogeneous magnetic sector fields for mass spectroscopy, 445

Hush theory of electron exchange reactions, 313, 314

Hydrogen burning in element synthesis, 508, 511, 512

Hyperfine splitting and polarization of gamma lines, 136-40

Hyperon production in high-density matter, 553

I

Inelastic electron production of nuclear continuum states, 37, 38

Inelastic electron scattering, 1-42 by the deuteron, 21-25 experimental methods, 14-21

Inelastic poliology peripheral calculations, 394-99

Interatomic potentials for theoretical analysis of defect production, 247-54

Internal gain semiconductor detector devices, 200

Ion acceleration techniques for thin source preparation, 172, 173

Ion detection systems for mass spectroscopy, 440-45

Ion optics of the mass spectrometer, 445-50

Ion production for mass spectroscopy, 437-40

Iron group electron exchange reactions, 291, 296-99, 315-17, 324

Irradiation production of free radicals in biological materials, 577-602

Isomeric chemical shift studies by the Mössbauer effect, 141, 142

Isotope abundance measurements, 453, 454

Isotope cosmology studies by mass-spectroscopic methods, 475-96

Isotope dilution techniques, 455

Isotope exchange reactions in the gas phase, 330-33 in heterogeneous systems, 344-48 in ionizing solvents, 339-44 in nonaqueous systems, 329-58 in nonionizing solvents, 333-39 under nonequilibrium conditions, 348-51

Isotope exchange reaction theory, 330

Isotope geology by mass-spectroscopic techniques, 476

Isotope separators, 452

Isotopic composition of meteorites, 476-96

Isotopic tracer use in electron exchange reaction studies, 286, 287

K

Knockon atom production by radiation, 244-47, 256-59

L

Landau-Cutkosky rules and anomalous thresholds, 373-80

SUBJECT INDEX

Lanthanide elements
electron exchange
reactions, 302, 303,
317, 318

Lead-ratio ages for
meteorites, 480-81

Level density in nuclei, 84-
88, 95, 96, 108-12,
117-20

Lifetime of the compound
nucleus, 96, 97

Light curves of supernovae,
544-46

Linacs at Stanford and
Orsay, 15-18

Lithium-drifted semi-
conductor particle
detectors, 194, 198

Lorentz transformation of
electron and photon
polarization, 50, 51,
68, 69

Low-energy pion physics
in dispersion theory,
406-8, 417-24

Low-energy scattering in
the Mandelstam
representation, 413-17

Low-voltage arc ion sources
for mass spectroscopy,
438, 440

M

Magnetic dipole transitions
in inelastic electron
scattering, 3-5, 12-14,
33, 34

Mandelstam representations,
380-84, 408-17
analytic properties in
 $\cos\theta$, 383, 384
applied to high-energy
scattering, 412,
413
applied to low-energy
scattering, 31
413-17
fixed t dispersion
relations, 381
partial-wave dispersion
relations, 381-83

Manganese group electron
exchange reactions,
291, 295, 296,
315

Many-body theories of
displacement
production, 259-63

Marcus (R. A.) theory of
electron exchange
reactions, 311-13

Many-dimensional potential-
energy surfaces
in theory of electron
exchange reactions, 302, 303,
317, 318

Mass assignments for
radioactive materials
by mass spectroscopy,
461-65

Mass determinations
in mass spectroscopy, 452,
453, 461-65

Mass spectrometer with
thermal ion sources and
electron multipliers,
450, 451

Mass-spectroscopic
identification
of stable end products of
nuclear processes,
460, 461

Mass-spectroscopic
techniques, 450-58

Mass-spectroscopic trace
detection sensitivity,
458

Mass spectroscopy in
nuclear physics studies,
435-506

Matter at high densities,
550-57

Meteorite age determination,
477-82

Meteorites
isotopic composition
studies, 476-96

Minimum ionizing particle
detection
with the semiconductor
detector, 212, 213

Möller and Bhabha
scattering
for polarization analysis,
69-71

Mössbauer effect, 123-52
general applications, 135-
43

Mössbauer effect studies
of relativity,
141-43

Mott scattering as electron
polarization analyzer,
66-68

Mushkelishvili-Omnès
equation, 403, 404,
406-8

N

N/D method in dispersion
relation theory, 402-6

Neutrino bremsstrahlung,
547

Neutrino creation by
electron-positron pair
annihilation, 547, 548

Neutrino emission and
stellar evolution, 546-
50

Neutron capture cross
sections
by mass-spectroscopic
techniques, 470, 471

Neutron flux traps in
reactors, 226-27, 233,
234

Neutron spectroscopy
using the semiconductor
particle detector, 209,
210

Neutron stars, 550-53

Nickel group electron
exchange reactions,
292, 300, 301

Nonadiabatic electron
exchange reactions,
310, 311

Nonthermal radio emission
from astronomical objects,
565-71

Nuclear astrophysics, 507-
76

Nuclear continuum states
excited in electron
scattering, 37, 38

Nuclear energy levels
excited in inelastic
electron scattering,
25-37

Nuclear excitation
temperature-dependence
on incident energy, 85-
89, 92-95, 105-8

Nuclear level density, 84-
88, 95, 96, 108-12,
117-20

Nuclear magnetic resonance
techniques
for electron exchange
reaction studies, 288,
289

Nuclear physics studies
by high-resolution mass
spectroscopy,
435-506

Nuclear reactions
in high-density matter,
554, 555
statistical model of, 79-
122

Nuclear reactions in
meteorites
induced by cosmic rays,
482, 483-92

Nuclear resonance recoilless
absorption of gamma
rays, 123-52

Nuclear tunneling in electron
exchange reactions,
320-22

Nucleic acid irradiation
free radical production,
583

Nucleon-nucleon correlations
effects on inelastic
electron scattering,
9

Nucleon-nucleon exchange force from deuteron electro-disintegration experiments, 24, 25
Nucleon-nucleon scattering in dispersion relation theory, 404-6
Nucleosynthesis, 507-33, 557-65

O

Optical activity techniques for electron exchange reaction studies, 287, 288

Optical methods for measuring thin film thickness, 158
Oxidation-reduction reaction, 285-328

P

Partial-wave amplitude dispersion relations, 381-83, 401-8

Particle detectors semiconductor, 189-220

Particle identification by use of semiconductor particle detectors, 206, 207

Peptide irradiation free radical production, 581, 582

Peripheral interactions in dispersion theory of strong interactions, 394-99

Photodisintegration of the deuteron as photon polarization analyzer, 54, 55

Photographic ion detection for mass spectroscopy, 441-45

Photo-neutrino production process, 547, 548

Photon-photon production of neutrinos, 547, 548

Photon polarization measurements, 43-78

Pion electromagnetic form factor, 406-8

Pion physics in dispersion theory, 406-8, 417-24

Pion physics, low-energy, 417-24

Plane polarization analysis method, 54-57

Point defects production and observation, 267-76

Polarization analysis by atomic photoelectric

effect, 55
by Compton scattering, 55-57
for electrons by the external bremsstrahlung method, 74
for electrons by Mott scattering, 66-68
for electrons and positrons by Möller and Bhabha scattering, 69-71
for electrons - use of spin precession, 68, 69
for energetic positrons by annihilation in flight, 74, 75
of gamma rays by differential Compton method, 63-66
of gamma rays by transmission Compton method, 61-63
Polarization analysis methods for low-energy positrons, 71-74
Polarization of beta rays and gamma rays, 43-78
Polarization of electrons and positrons experimental methods of analysis, 66-76
Polarization in photo-disintegration of the deuteron, 54, 55
Polarization-polarization correlations, 53, 54
Polarization studies of gamma lines by use of Mössbauer effect, 136-40
Poleology, elastic, 391-94
Poleology, inelastic, 394-99
Positron polarization analysis by use of annihilation, 71-75
Potassium-argon ages for meteorites, 481, 483
Potential theory
Regge pole analysis of scattering, 424-31
p process in element synthesis, 508, 509, 527, 528
Preparation of thin films, sources, and targets, 133-88
Primordial rare gases in

meteorites, 495, 496
Production and nature of free radicals formed in biochemical materials, 580-84

Production of primary knockon atoms by radiation, 244-47, 256-59

Properties of matter at high density, 550-57

Protein irradiation free radical production, 581-83

Pulsed reactors, 234-37

R

Radiation ages for meteorites, 487-92

Radiation damage in solids, 243-84

Radiation damage of semiconductor particle detectors, 200

Radiation-induced defect production predicted by theory, 263-67

Radiation-induced production of free radicals in biological systems, 577-602

Radical formation and energy migration in biochemicals, 587-90

Radical formation and energy migration in irradiated organisms, 595

Radical production and biological damage correlations, 596-98

Radical production in irradiated organisms, 592, 593

Radical yield in biochemical irradiation, 586, 587

Radical yield in irradiated organisms, 594, 595

Radio emission from astronomical objects, 565-71

Radio galaxies, 568-71

Radio stars, 567, 568

Rare-gas analysis techniques for mass spectroscopy, 450

Rare-gas anomalies in meteorites, 494, 496

Reaction rate studies of chemical reactions by isotope exchange methods, 329-58

Recoilless gamma studies of frequency distribution and time dependence of

SUBJECT INDEX

transmitted radiation, 147, 148

Recoilless gamma transitions
basic theory, 126-33
tabulated, 149

Recoilless nuclear resonance absorption, 123-52
of gamma rays
experimental techniques, 133-36

Recoilless scattering and coherence problems, 143-47

Reduced nuclear transition probabilities, 3-6, 13

Regge poles
in potential theory, 424-28
in relativistic theory, 428-31

Relativistic effects
studied by the Mössbauer effect, 141-43

Research reactor design
calculational methods, 228-30

Research reactor fuel technology development, 224-26

Research reactor incidents, 239-41

Research reactor list, 222

Research reactor neutron flux density, 226-28, 230-34

Research reactor power density, 226-28

Research reactors
advanced type, 230-37
pulsed type, 234-37
uranium-enriched tank type, 230-232-34

Research reactor safety, 237-41

Research reactor safety experiments, 238, 239

Research reactor site selection considerations, 237, 238

Research reactor technology, 221-42
developmental trends, 222-30

Resonology in dispersion theory, 413-24

Rhenium-osmium ages of iron meteorites, 479, 480

r process in element synthesis, 508, 524-27

Rubidium-strontium ages of stone meteorites, 479

S

Scattering amplitude spectral representations,

370-73, 380-84, 408-17

Scattering, inelastic electron, 1-42

Scattering matrix
general properties, 362-73
singularities, 368-70

Second-order Doppler effect measurements
by use of Mössbauer effect, 141

Semiconductor detector noise, 196-99

Semiconductor particle detector, 189-220
application to nuclear reaction charged-particle spectroscopy, 204-8

charge collection, 194-96

electronics, 201-3

materials other than silicon and germanium, 200, 201

miscellaneous applications, 213, 214

properties, fabrication, and operation, 190-201

radiation damage, 200

surface leakage noise, 198, 199

Shifts of the emission and absorption spectra in Mössbauer effect studies, 140-42

Signal-to-noise ratio for the semiconductor particle detection system, 201, 202

Solar system age, 562-65

Solidification ages of meteorites, 481

Solid sample analysis with double-focusing mass spectrographs, 451, 452

Spallation cross sections by mass-spectroscopic techniques, 471, 473, 484-86
and production rates in meteorites, 484-86

Specific activity method for half-life determination, 469

Spectral representations of scattering amplitudes, 370-73, 380-84, 408-17

Spectra of supernovae, 544-46

Spin and charge
introduction into dispersion theory, 384-88

Spin precession
use in polarization analysis for electrons, 68, 69

s process in element synthesis, 508, 513-17

Stability of free radicals formed in biochemicals, 584-86
formed in irradiated organisms, 593, 594

Statistical model
angular distributions, 90-95, 102-5
correlations in coincidence studies, 112, 113
evaporation probability, 81, 82, 84-88, 95, 96, 108-12, 117-20
level density in, 84-88, 95, 96, 108-12, 117-20
lifetime of the compound nucleus, 96, 97

of nuclear reactions, 79-122
observable aspects, 86-88
outline of, 81-86
range of validity, 115-17
temperature of nuclear excitation, 85-89, 92-95, 105-12
yields and excitation functions, 88-90, 97-102

Stellar abundances for magnetic stars, 539-42

Stellar composition as a function of age, 535-39
observed, 533-44

Stellar evolution and neutrino emission 546-50
and nucleosynthesis, 507-33, 557-65

Stigmatic focusing for mass spectrometers, 448-50

Stopping of particles in semiconductor particle detectors, 190, 191

Strip equations for Mandelstam representation, 408-12

Strong interaction studies by dispersion relation methods, 359-434

Substitution rule for scattering amplitude matrix elements, 362-65

Supernova distribution within and among galaxies, 544-46

Supernova explosions role in element synthesis and distribution, 518-27, 549, 550

Supernova remnants, 566, 567

Surface leakage current
noise
in semiconductor particle
detectors, 198, 199
Synthesis of the elements,
507-33, 557-65

T

Technology of research
reactors, 221-42
Temperature in the
statistical model, 85-
89, 92-95, 105-12
Thallium(I)-thallium(III)
electron exchange
reactions, 306-8,
318

Thermal ion sources
for mass spectroscopy,
438, 439

Thermal spikes
experimental observations,
279-81
in radiation damage, 259-
63, 266, 279-81

Thermionic dissociation
techniques
for thin target preparation,
179

Thin conducting films,
158-61

Thin films
general requirements,
153, 154
of nonplastic materials,
159-61

Thin film preparation,
153-88

Thin source preparation,
153-88
by electrodeposition,
165, 167-72

by electrospraying,
163, 164
by evaporation of a
solution or suspension,
161-63
by ion acceleration
methods, 172, 173
by vacuum evaporation,
164-67

Thin target preparation,
153-88

by electrodeposition,
176-79

by thermionic dissociation,
179

by use of the electro-
magnetic separator,
180

by vacuum evaporation,
174-76

Thin targets of gases,
179, 180

Time dependence of
transmitted radiation

observed in the Mössbauer
effect, 147, 148

Tin(II)-tin(IV) electron
exchange reaction, 305

Transmission Compton
analysis of photon
helicity, 61-
63

Two-body theories of
displacement
production, 256-59

U

Unitarity
applied to the Mandelstam
representation, 408-17

Unitarity and analyticity
general considerations on

combined use, 399-401
Unitarity of the scattering
amplitude
general discussion, 365-
68, 399-401
Uranium-helium ages for
meteorites, 481, 483
Urca process in stellar
evolution, 546-48

V

Vacuum evaporation
techniques
for thin source
preparation, 164-67
for thin target preparation,
174-76

Vanadium group electron
exchange reactions,
290-93, 315-17

Velocity drives for study of
Mössbauer effect,
135, 136

Velocity transformations on
polarizations, 50, 51,
66, 69

Virtual photon spectra
in inelastic electron
scattering, 11-14

VYNS resin films, 155-57

X

x process in element
synthesis, 509, 528-33

Z

Zapon thin films, 154

Zinc group electron
exchange reactions,
302

CUMULATIVE INDEXES

VOLUMES 8 TO 12

INDEX OF CONTRIBUTING AUTHORS

A	R
Ajzenberg-Selove, F., 10: 409	Hubbard, E. L., 11:419 Hudis, J., 9:159
Aldrich, L. T., 8:257	J
Alper, T., 10:489	Judd, D. L., 8:181
Amati, D., 12:359	K
Anders, E., 9:203	Kendall, H. W., 9:343 Koch, L. J., 9:437
Arnold, J. R., 11:349	Koehler, W. C., 11:303 Konopinski, E. J., 9:99
Atwood, K. C., 9:553	Kretzschmar, M., 11:1
B	L
Barber, W. C., 12:1	Lane, J. A., 9:473
Bartholomew, G. A., 11: 259	Latter, R., 11:371
Beckerley, J. G., 10:425	Lauritsen, T., 10:409
Bodansky, D., 12:79	Libby, W. F., 11:461
Bradner, H., 10:109	M
Burbidge, G., 12:507	MacGregor, M. H., 10: 313
C	Miller, G. L., 12:189 Miller, J. M., 9:159
Cameron, A. G. W., 8:299	Moravcsik, M. J., 10:324; 11:95
Chamberlain, O., 10:161	Morpurgo, G., 11:41
Chew, G. F., 9:29	Morrison, G. H., 9:221
Church, E. L., 10:193	Mössbauer, R. L., 12: 123
Cole, T. E., 12:221	Moyer, B. J., 8:327
D	N
Dabbs, J. W. T., 11:175	Neher, H. V., 8:217
Donovan, P. F., 12:189	Ney, E. P., 10:461
DuMond, J. W. M., 8:163	Noyes, H. P., 11:95
F	O
Feshbach, H., 8:49	Okun', L., 9:61
Freiser, H., 9:221	Ord, M. G., 9:523
Fry, W. F., 8:105	P
Fubini, S., 12:359	Page, L. A., 12:43 Paxton, H. C., 9:437 Post, R. F., 9:367
G	Q
Gibson, W. M., 12:189	Quastler, H., 8:387
Goland, A. N., 12:243	R
Grahn, D., 10:561	Reines, F., 10:1
Greisen, K., 10:63	Roberts, L. D., 11: 175
H	Rugh, R., 9:493
Halpern, I., 9:245	Segrè, E., 8:127 Smith, D. E., 12:577
Harvey, B. G., 10:235	Stapp, H. P., 10:292 Stocken, L. A., 9: 523
Herber, R. H., 12:329	Storer, J. B., 10: 561
Herbst, R. F., 11:371	Suess, H. E., 8:243 Sutin, N., 12:285
Hintenberger, H., 12:435	T
	Talmi, I., 10:353 Thompson, R. C., 10: 531
	U
	Unna, I., 10:353
	W
	Watson, K. M., 11:371 Weinberg, A. M., 12: 221
	Weneser, J., 10:193 Weston, R. E., Jr., 11: 439
	Wetherill, G. W., 8: 257
	Wick, G. C., 8:1 Wilkinson, D. H., 9:1
	Wilkinson, M. K., 11: 303
	Wolf, A. P., 10: 259
	Wollan, E. O., 11: 303
	Wood, T. H., 8:343
Y	Y
	Yaffe, L., 12:153
Z	Z
	Zucker, A., 10:27

INDEX OF CHAPTER TITLES

ACCELERATORS

Conceptual Advances in Accelerators	D. L. Judd	8:181-216
Optics of High-Energy Beams	O. Chamberlain	10:161-92
Heavy-Ion Accelerators	E. L. Hubbard	11:419-38

CHEMISTRY, NUCLEAR AND RADIO-

Technetium and Astatine Chemistry	E. Anders	9:203-20
Solvent Extraction in Radiochemical Separations	H. Freiser, G. H. Morrison	9:221-44
Labeling of Organic Compounds by Recoil Methods	A. P. Wolf	10:259-90
Isotope Effects in Chemical Reactions	R. E. Weston, Jr.	11:439-60
Electron Exchange Reactions	N. Sutin	12:285-328
Isotopic Exchange Reactions in Nonaqueous Systems	R. H. Herber	12:329-58

COSMIC RAYS

The Primary Cosmic Radiation	N. V. Neher	8:217-42
Cosmic Ray Showers	K. Greisen	10:63-108
Experiments on Cosmic Rays and Related Subjects during the International Geophysical Year	E. P. Ney	10:461-88
Nuclear Effects of Cosmic Rays in Meteorites	J. R. Arnold	11:349-70

DETECTORS

Gamma-Ray Spectroscopy by Direct Crystal Diffraction	J. W. M. DuMond	8:163-80
Electronics Associated with Nuclear Research	H. W. Kendall	9:343-66
Bubble Chambers	H. Bradner	10:109-60
Semiconductor Particle Detectors	G. L. Miller, W. M. Gibson, P. F. Donovan	12:189-220

FISSION (REACTORS)

Nuclear Fission	I. Halpern	9:245-342
High-Temperature Plasma Research and Controlled Fusion	R. F. Post	9:367-436
Fast Reactors	L. J. Koch, H. C. Paxton	9:437-72
Economics of Nuclear Power	J. A. Lane	9:473-92
Technology of Research Reactors	T. E. Cole, A. M. Weinberg	12:221-42

INTERACTION OF NUCLEAR RADIATIONS AND MATTER

Nuclear Methods for Subsurface Prospecting	J. G. Beckerley	10:425-60
Industrial Uses of Isotopes	W. F. Libby	11:461-82
Recoilless Nuclear Resonance Absorption	R. L. Mössbauer	12:123-52
Atomic Displacements in Solids by Nuclear Radiation	A. N. Goland	12:243-84

LOW TEMPERATURES

Nuclear Orientation	L. D. Roberts, J. W. T. Dabbs	11:175-212
---------------------	-------------------------------	------------

MESONS AND ELEMENTARY PARTICLES

Invariance Principles of Nuclear Physics	G. C. Wick	8:1-48
Hyperfragments	W. F. Fry	8:105-26
Antinucleons	E. Segrè	8:127-62
The Pion-Nucleon Interaction and Dispersion Relations	G. F. Chew	9:29-60
Strange Particles	L. Okun'	9:61-98
Neutrino Interactions	F. Reines	10:1-26
Statistical Methods in High-Energy Physics	M. Kretzschmar	11:1-40
Strong Interactions and Reactions of Hyperons and Heavy Mesons	G. Morpurgo	11:41-94

NEUTRONS [SEE ALSO FISSION (REACTORS)]

Neutron Capture Gamma Rays	G. A. Bartholomew	11:259-302
----------------------------	-------------------	------------

INDEX OF CHAPTER TITLES

Neutron Diffraction	M. K. Wilkinson, E. O. Wollan, W. C. Koehler	11:303-48
NUCLEAR GEOLOGY, COSMOLOGY		
Radioactivity of the Atmosphere and Hydrosphere	H. E. Suess	8:243-56
Geochronology by Radioactive Decay	L. T. Aldrich, G. W. Wetherill	8:257-98
Nuclear Astrophysics	A. G. W. Cameron	8:299-326
Nuclear Astrophysics	G. Burbidge	12:507-76
NUCLEAR MOMENTS, NUCLEAR MODELS AND STRUCTURE		
Optical Model and Its Justification	H. Feshbach	8:49-104
Experimental Clarification of the Laws of β -Radioactivity		
Theoretical Interpretation of Energy Levels of Light Nuclei	E. J. Konopinski	9:99-158
Appendix: Energy Levels of Light Nuclei	I. Talmi, I. Unna	10:353-408
Nuclear Structure Effects in Internal Conversion	F. Ajzenberg-Selove, T. Lauritsen	10:409-24
NUCLEAR REACTIONS	E. L. Church, J. Weneser	10:193-234
Nuclear Photodisintegration	D. H. Wilkinson	9:1-28
High-Energy Nuclear Reactions	J. M. Miller, J. Hudis	9:159-202
High-Temperature Plasma Research and Controlled Fusion	R. F. Post	9:367-436
Nuclear Interactions of Heavy Ions	A. Zucker	10:27-62
Recoil Techniques in Nuclear Re- action and Fission Studies	B. G. Harvey	10:235-58
Nucleon-Nucleon Scattering Experi- ments and Their Phenomenological Analysis	M. H. MacGregor, M. J. Moravcsik, H. P. Stapp	10:291-352
Statistical Methods in High- Energy Physics	M. Kretzschmar	11:1-40
Strong Interactions and Reactions of Hyperons and Heavy Mesons	G. Morpurgo	11:41-94
Theories of Nucleon-Nucleon	M. J. Moravcsik, H. P. Noyes	11:95-174
Elastic Scattering	W. C. Barber	12:1-42
Inelastic Electron Scattering	L. A. Page	12:43-78
The Polarization Measurements on Beta and Gamma Rays	D. Bodansky	12:79-122
Compound Statistical Features in Nuclear Reactions	A. N. Goland	12:243-84
Atomic Displacements in Solids by Nuclear Radiation	D. Amati, S. Fubini	12:359-434
Dispersion Relation Methods in Strong Interactions		
POSITRONIUM, ANTI PARTICLES		
Invariance Principles of Nuclear Physics	G. C. Wick	8:1-48
Antinucleons	E. Segrè	8:127-62
RADIATION EFFECTS AND HAZARDS		
Practical Control of Radiation	B. J. Moyer	8:327-42
Hazards in Physics Research	R. Latter, R. F. Herbst,	
Detection of Nuclear Explosions	K. M. Watson	11:371-418
RADIOACTIVITY		
Neutrino Interactions	F. Reines	10:1-26
Preparation of Thin Films, Sources, and Targets	L. Yaffe	12:153-88
RADIOBIOLOGY		
Cellular Radiobiology	T. H. Wood	8:343-86
Information Theory in Radiobiology	K. C. Atwood	9:553-92
Vertebrate Radiobiology	T. Alper	10:489-530
Embryology	H. Quastler	8:387-400
Metabolism of Internal Emitters	R. Rugh	9:493-522
	R. C. Thompson	10:531-60

INDEX OF CHAPTER TITLES**633**

Late Effects	J. B. Storer, D. Grahn	10:561-82
Free Radicals in Irradiated Biological Materials and Systems	D. E. Smith	12:577-602
SHIELDING		
Shielding of High-Energy Accelerators (See also RADIATION HAZARDS)	S. J. Lindenbaum	11:213-58
SPECTROSCOPY		
Gamma-Ray Spectroscopy by Direct Crystal Diffraction	J. W. M. DuMond	8:163-80
High-Sensitivity Mass Spectroscopy in Nuclear Studies	H. Hintenberger	12:435-506